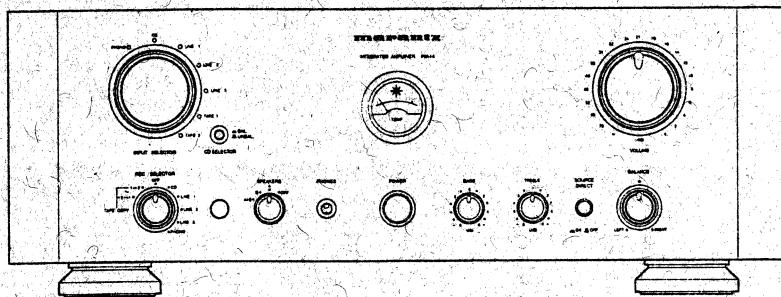


# Service Manual

74 PM14 /02B/02G

PM-14F N

Integrated amplifier



## TABLE OF CONTENTS

SECTION	PAGE
1. SPECIFICATIONS .....	1
規格	
2. BLOCK DIAGRAM .....	2
プロックダイアグラム	
3. TEST EQUIPMENT REQUIRED FOR SERVICING .....	2
サービスに必要な測定器	
4. SCHEMATIC DIAGRAM AND PARTS LOCATIONS ( PATTERN SIDE ) .....	3
回路図と基板図 ( パターン側 )	
5. EXPLODED VIEW AND PARTS LIST .....	23
分解図と部品表	
6. DC OFFSET VOLTAGE ALIGNMENT .....	26
DC オフセット電圧調整	
7. IDLING CURRENT ADJUSTMENT .....	26
アイドリング電流調整手順	
8. ELECTRICAL PARTS LIST .....	27
電気部品表	

Please use this service manual with reference to the user guide ( D.F.U. ) without fail.  
修理の際は、必ず取扱説明書を準備し操作方法の上作業を行ってください。

**marantz®**

## MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, **MARANTZ** company has created the ultimate in stereo sound. Only original **MARANTZ** parts can insure that your **MARANTZ** product will continue to perform to the specifications for which it is famous.

Parts for your **MARANTZ** equipment are generally available to our National Marantz Subsidiary or Agent.

### ORDERING PARTS :

Parts can be ordered either by mail or by Fax.. In both cases, the correct part number has to be specified.

The following information must be supplied to eliminate delays in processing your order :

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature : any order form or Fax. must be signed, otherwise such part order will be considered as null and void.

**USA**  
MARANTZ AMERICA, INC.  
440 MEDINAH ROAD  
ROSELLE, ILLINOIS 60172  
USA  
PHONE : 630 - 307 - 3100  
FAX : 630 - 307 - 2687

**CANADA**  
LENBROOK INDUSTRIES LIMITED  
633 GRANITE COURT,  
PICKERING, ONTARIO L1W 3K1  
CANADA  
PHONE : 905 - 831 - 6333  
FAX : 905 - 831 - 6936

**EUROPE / TRADING**  
MARANTZ EUROPE B.V.  
P.O.BOX 80002  
BUILDING SFF2  
5600 JB EINDHOVEN  
THE NETHERLANDS  
PHONE : +31 - 40 - 2732241  
FAX : +31 - 40 - 2735578

**PROFESSIONAL USA**  
SUPERSCOPE TECHNOLOGIES, INC.  
MARANTZ PROFESSIONAL PRODUCTS  
1000 CORPORATE BLVD. SUITE D  
AURORA, ILLINOIS 60504 USA  
PHONE : 630 - 820 - 4800  
FAX : 630 - 820 - 8103

**PROFESSIONAL CANADA**  
TC ELECTRONICS CANADA LTD.  
540 FIRING AVE.  
BAIE D'URFE, QUEBEC H9X 3T2  
CANADA  
PHONE : 514 - 457 - 4044  
FAX : 514 - 457 - 5524

**KOREA**  
MK ENTERPRISES LTD.  
2F SHINHAN BLDG., 247-17 SEOKYO-DONG  
MAPO-KU, SEOUL  
KOREA  
PHONE : +82 - 2 - 323 - 2154  
FAX : +31 - 2 - 323 - 2154

**BRAZIL**  
MARANTZ BRAZIL  
CAIXA POSTAL 21462  
CEP 04698-970  
SAO PAULO, SP, BRAZIL  
PHONE : 0800 - 123123 (Discagem Direta Gratuita)  
FAX : +55 11 534.8988

**THAILAND**  
MRZ STANDARD CO., LTD.  
746 - 754 MAHACHAI RD.,  
WANGBURAPAPIROM, PHRANAKORN,  
BANGKOK, 10200 THAILAND  
PHONE : +66 - 2 - 222 - 9181  
FAX : +66 - 2 - 224 - 6795

**HONG KONG**  
FORWARD INTERNATIONAL CORP., LTD.  
3F, BLOCK-B WO KEE HONG BLDG., 585-609  
CASTLE PEAK RD., KWAI CHUNG, N.T.  
HONG KONG  
PHONE : +852 24942033  
FAX : +852 24101656

**AUSTRALIA / NEW ZEALAND**  
SCAN AUDIO PTY. LTD.  
52 CROWN STREET, RICHMOND 3121  
VICTORIA  
AUSTRALIA  
PHONE : +61 - 3 - 9429 - 2199  
FAX : +61 - 3 - 9429 - 9309

**TAIWAN**  
PAI-YUING CO., LTD.  
6 TH FL NO. 148 SUNG KIANG ROAD,  
TAIPEI, 10429, TAIWAN R.O.C.  
PHONE : +886 (2) 5221304  
FAX : +886 (2) 5630415

**MALAYSIA**  
WO KEE HONG ELECTRONICS SDN. BHD.  
NO. 102 JALAN SS 21/35, DAMANSARA  
UTAMA, 47400 PETALING JAYA  
SELANGOR DARUL EHSAN,  
MALAYSIA  
PHONE : +60 3 - 7184666  
FAX : +60 3 - 7173828

**JAPAN Technical**  
MARANTZ JAPAN, INC.  
35-1, 7- CHOME, SAGAMIONO  
SAGAMIHARA - SHI, KANAGAWA  
JAPAN 228-8505  
PHONE : +81 427 48 9379  
FAX : +81 427 48 0889

日本マランツ株式会社  
本社 〒228-8505  
神奈川県相模原市相模大野 7-35-1  
営業本部 〒150-0022  
東京都渋谷区恵比寿南 1-11-9

**SINGAPORE**  
FORWARD MARKETING (S) PTE. LTD.  
23, LORONG 8, TOA PAYOH,  
SINGAPORE 319257.  
PHONE : +65 25836407  
FAX : +65 3564047

### SHOCK, FIRE HAZARD SERVICE TEST :

**CAUTION :** After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins ( with unit NOT connected to AC mains and its Power switch ON ), and the face or Front Panel of product and controls and chassis bottom.

Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before it is return to the user/customer.

Ref. UL Standard No. 1492.

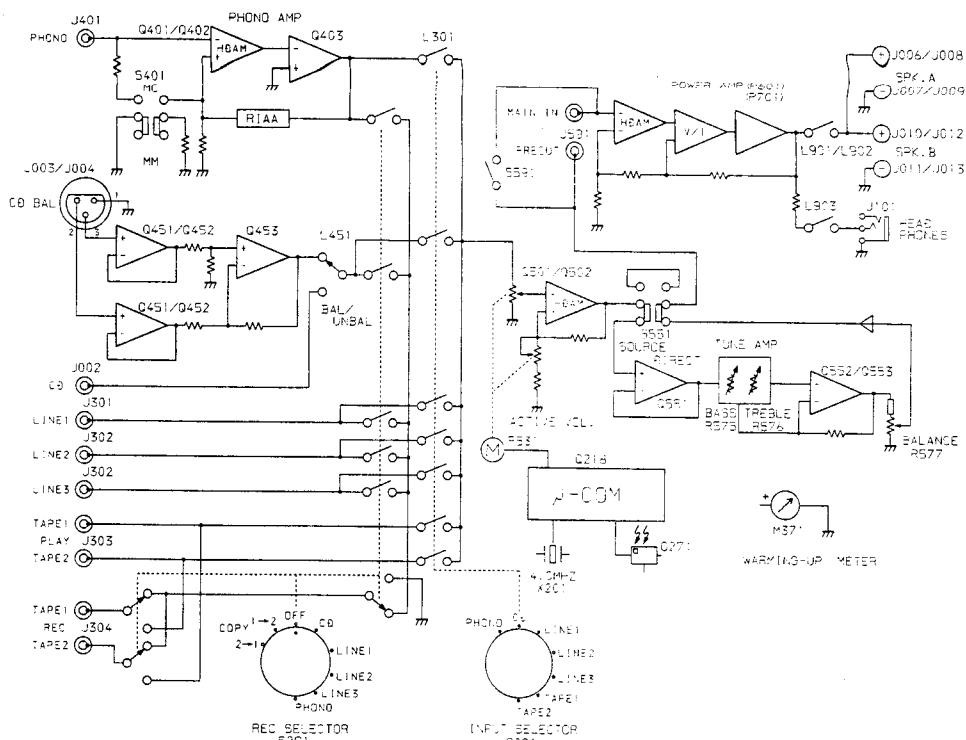
In case of difficulties, do not hesitate to contact the Technical Department at above mentioned address.

## 1. TECHNICAL SPECIFICATIONS

Rated power output (20 Hz to 20 kHz, 2CH simultaneous drive) .....	100 W x 2 (8 Ω load)
	160 W x 2 (6 Ω load)
	200 W x 2 (4 Ω load)
Total harmonic distortion (20 Hz to 20 kHz, 2CH drive, 8 Ω load) .....	0.008 %
Cross-modulation distortion (SMPTE) .....	0.008 %
Output bandwidth (8 Ω load, 0.04 %) .....	10 Hz to 50 kHz
Frequency response (CD, SOURCE DIRECT) .....	5 Hz to 100 kHz, +0/-1 dB
Damping factor (8 Ω load, 20 Hz to 10 kHz) .....	180
Input sensitivity/input impedance	
PHONE (MC) .....	250 μV/100 Ω
PHONE (MM) .....	2.8 mV/47 kΩ
HIGH LEVEL .....	200 mV/10 kΩ
MAIN IN .....	2 V/100 kΩ
Output voltage/output impedance	
PRE OUT .....	2 V/900 Ω
Maximum allowable PHONE input (1 kHz)	
MC .....	12 mV
MM .....	130 mV
RIAA deviation (20 Hz to 20 kHz) .....	±0.2 dB
S/N (IHF A network, input shorted)	
PHONE (MC) .....	76 dB
PHONE (MM) .....	90 dB
HIGH LEVEL .....	110 dB
Tone control	
BASS (100 Hz) .....	±8 dB
TREBLE (10 kHz) .....	±8 dB
Supply voltage	
/02 version .....	230 V AC, 50 Hz
F version .....	100 V AC, 50/60 Hz
Power consumption .....	300 W
Dimensions (Maximum)	
Width .....	458 mm
Height .....	166 mm
Depth .....	464 mm
Weight .....	23.0 kg
Accessories	
Remote control unit (RC-17PM) .....	x 1
Dimensions	
Width .....	44 mm
Height .....	239 mm
Depth .....	17.5 mm
Weight (without batteries) .....	189 g
SUM-4 (R6/ "AA" size) dry cell battery .....	x 2

Design and specifications are subject to change without notice.

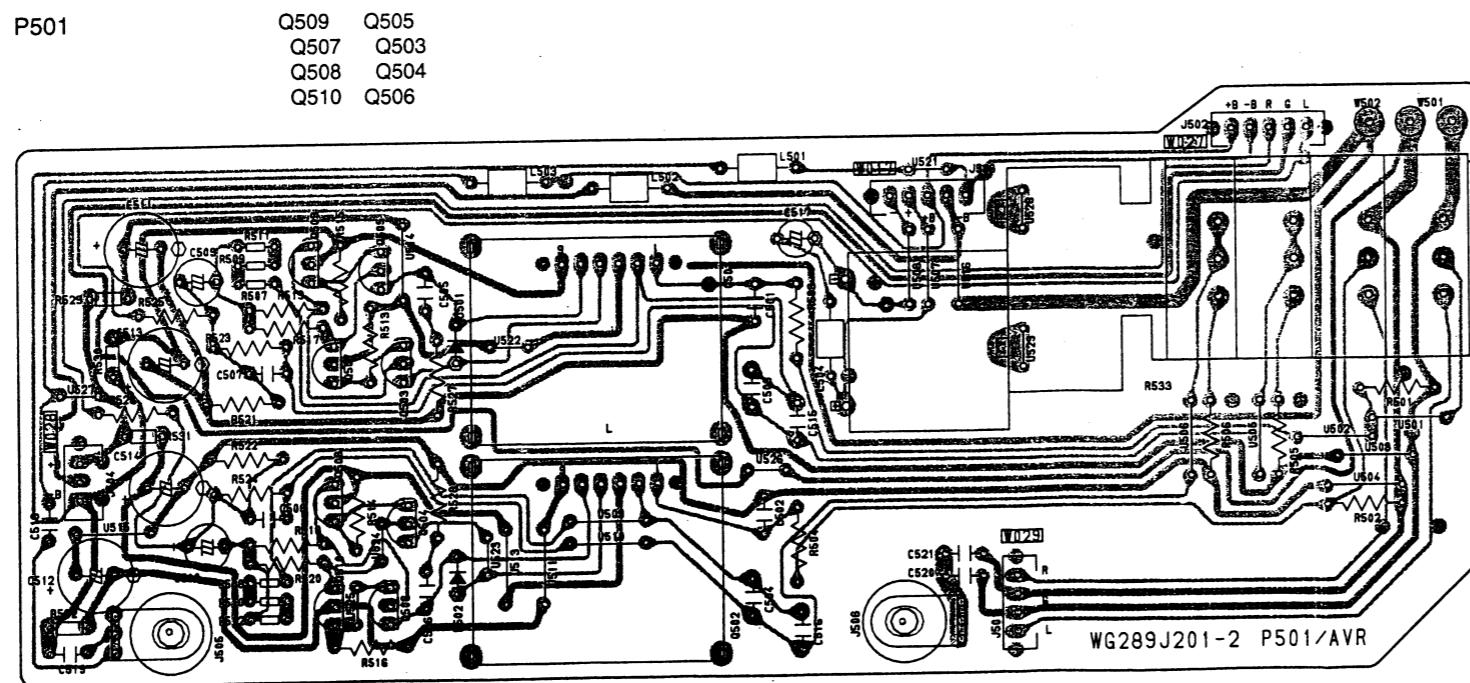
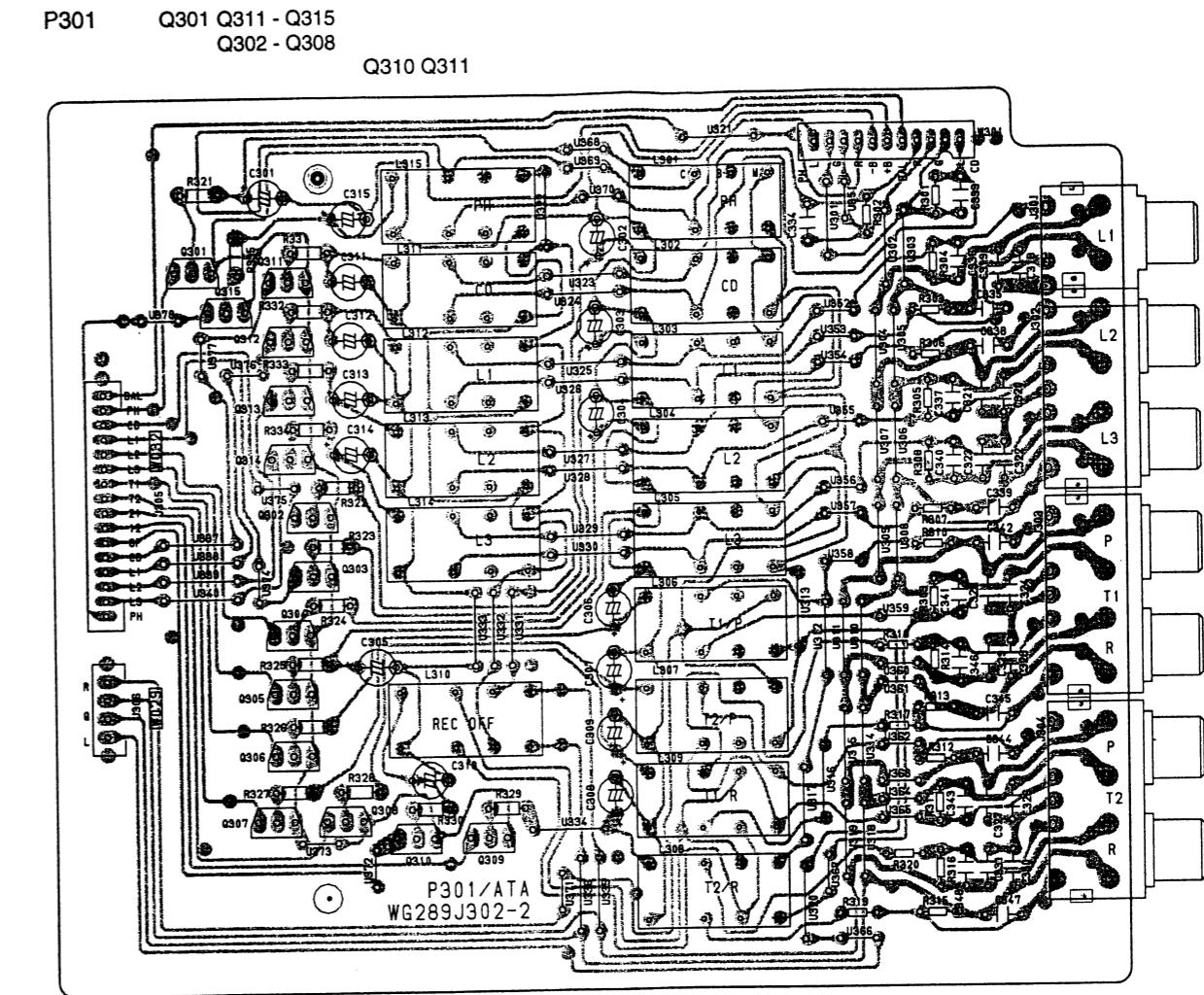
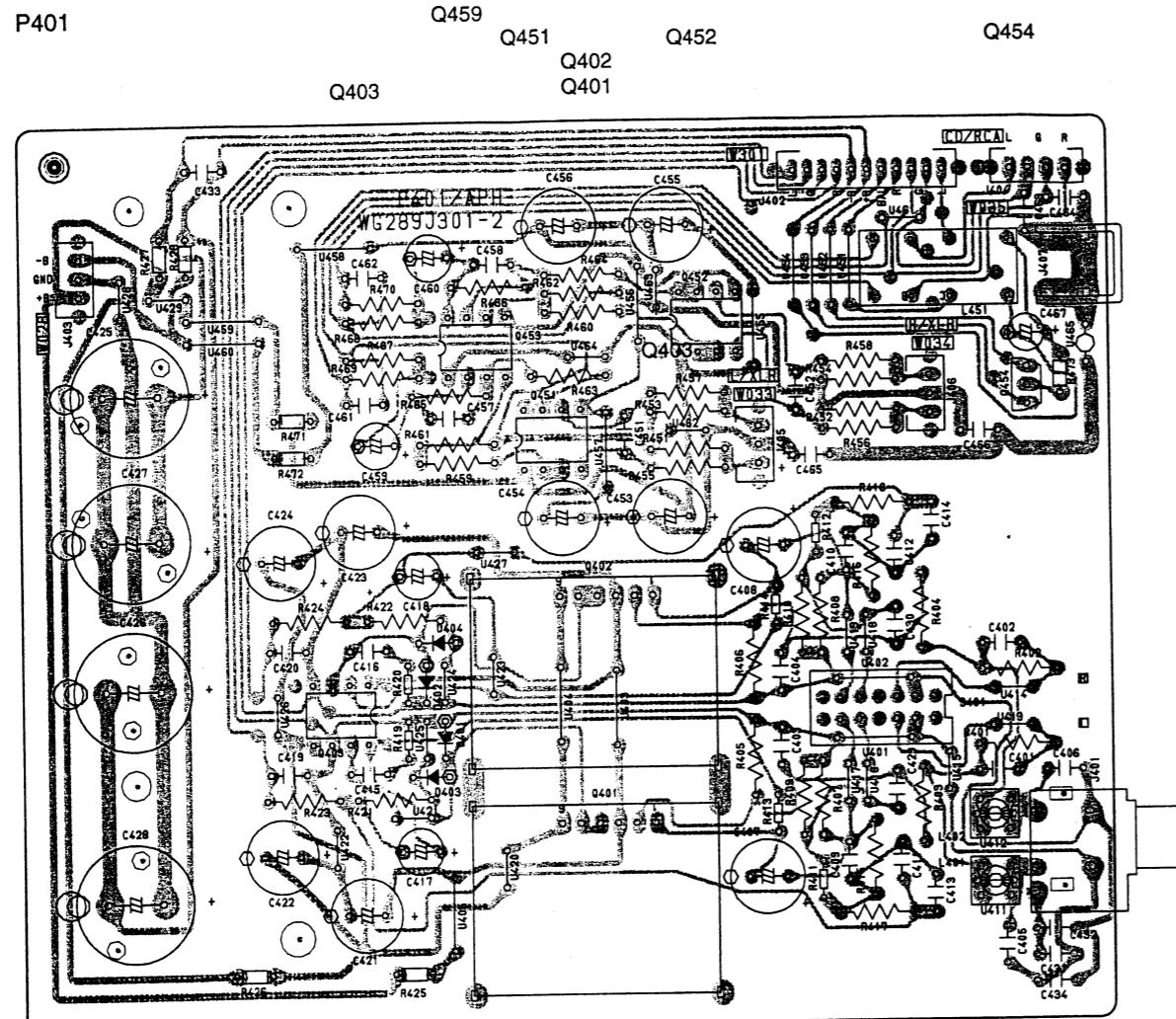
## 2. BLOCK DIAGRAM



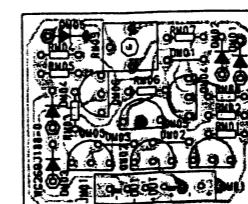
## 3. TEST EQUIPMENT REQUIRED FOR SERVICING

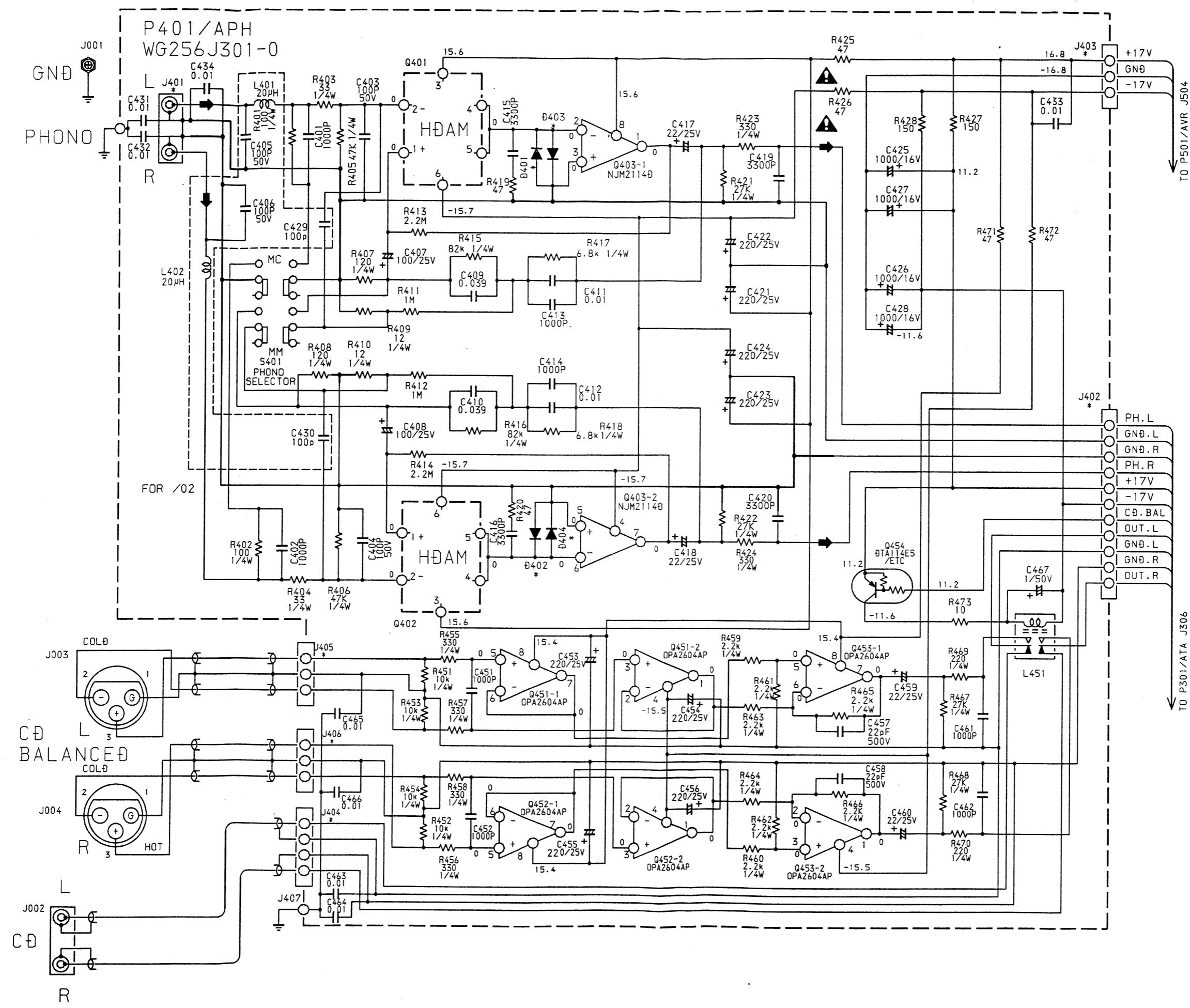
Item 項目	Use 用途
Distortion Analyzer 歪率計	Distortion measurements 歪率の測定
Audio Oscillator 低周波発振器	Sinewave and squarewave signal source 正弦波及び矩形波の信号源
AC VTVM AC VTVM	Voltage measurements (AC) 交流電圧の測定
Oscilloscope オシロスコープ	Waveform analysis and trouble shooting and ASO alignment 波形分析、トラブルシューティング及び ASO の調整
DC VTVM DC VTVM	Voltage measurements (DC) 直流電圧の測定
AC Wattmeter 交流ワットメーター	Monitors primary power to amplifier アンプの一次側消費電力のモニター
Line Voltmeter 電源電圧計	Monitors potential of primary power to amplifier アンプの一次側消費電圧のモニター
Variable Autotransformer スライダック	Adjust level of primary power to amplifier アンプの一次側電圧の調整
Circuit Tester テスター	Trouble shooting トラブルシューティング
Shorting Plug ショート用プラグ	Shorts amplifier input to eliminate noise pickup 雑音を拾わないようにアンプ入力を短絡する

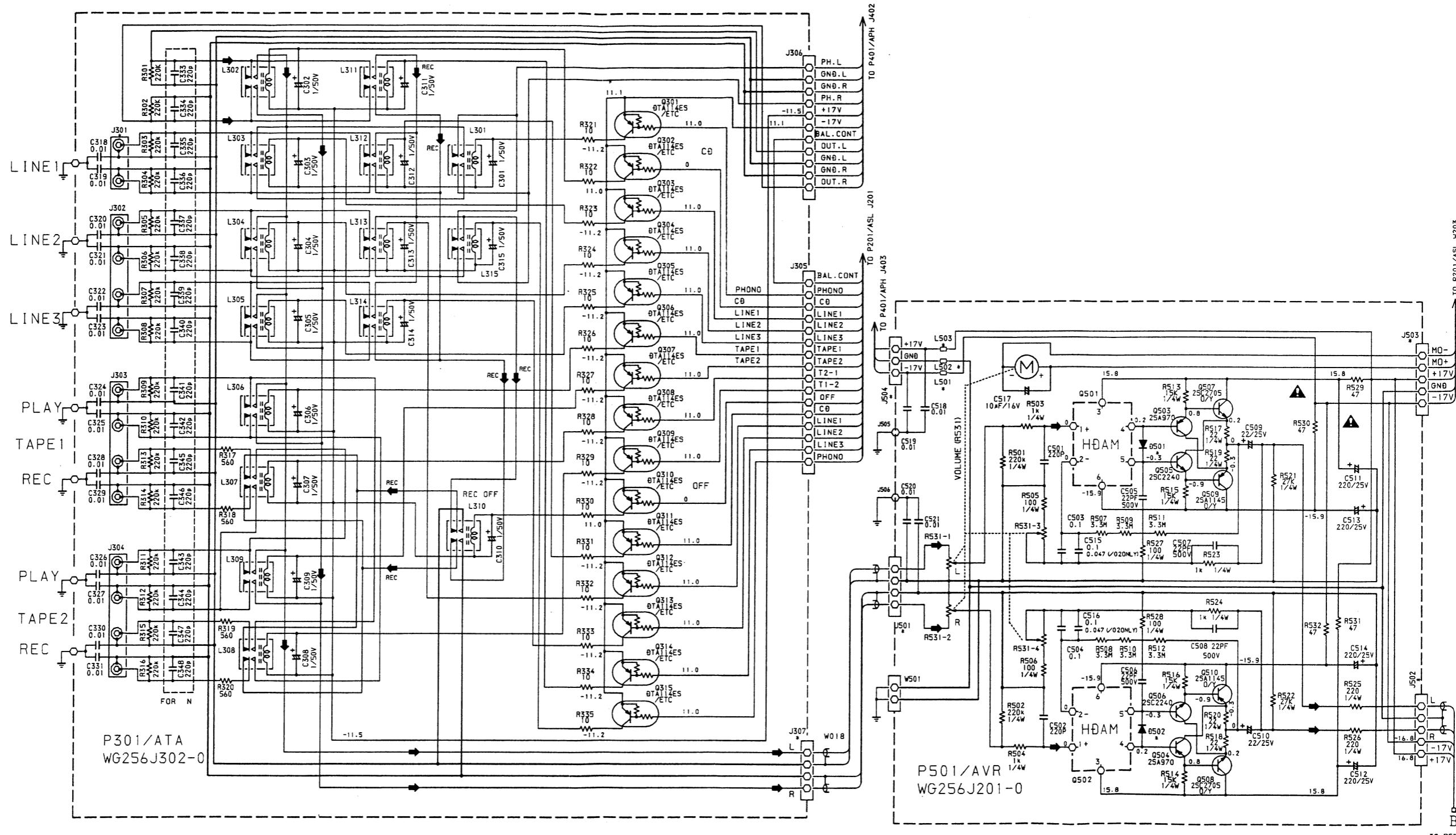
4. SCHEMATIC DIAGRAM AND PARTS LOCATION (Pattern Side)

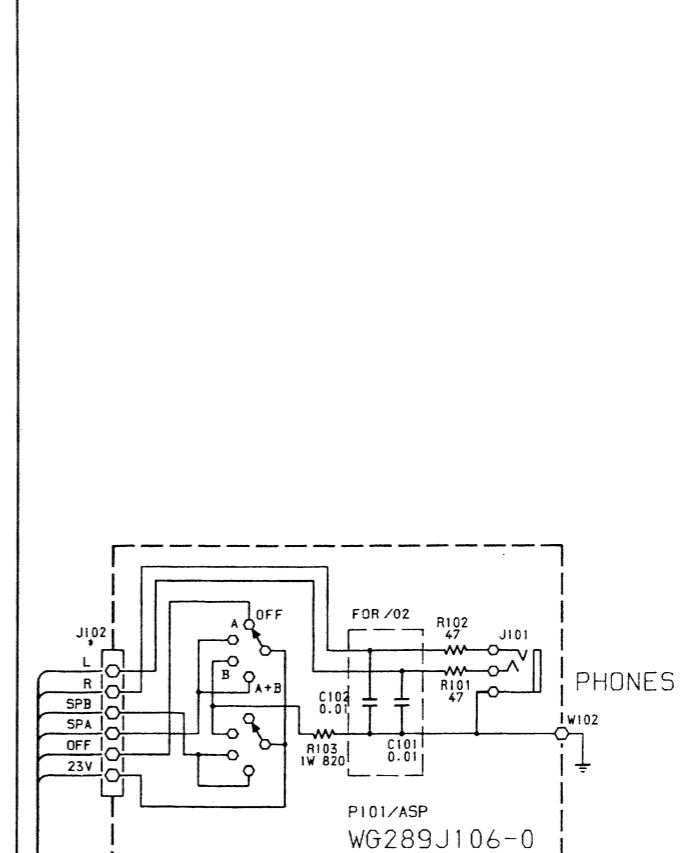
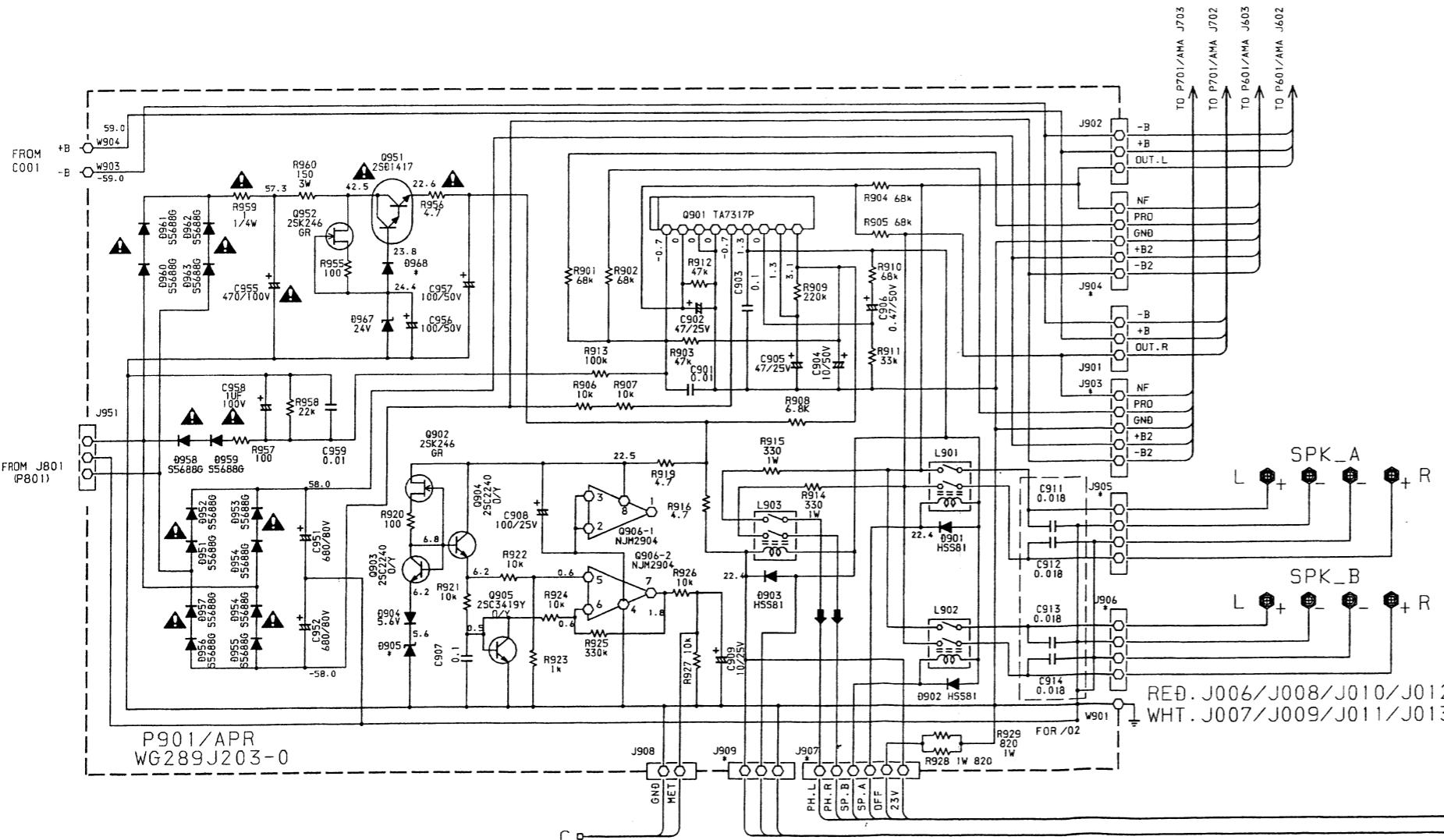
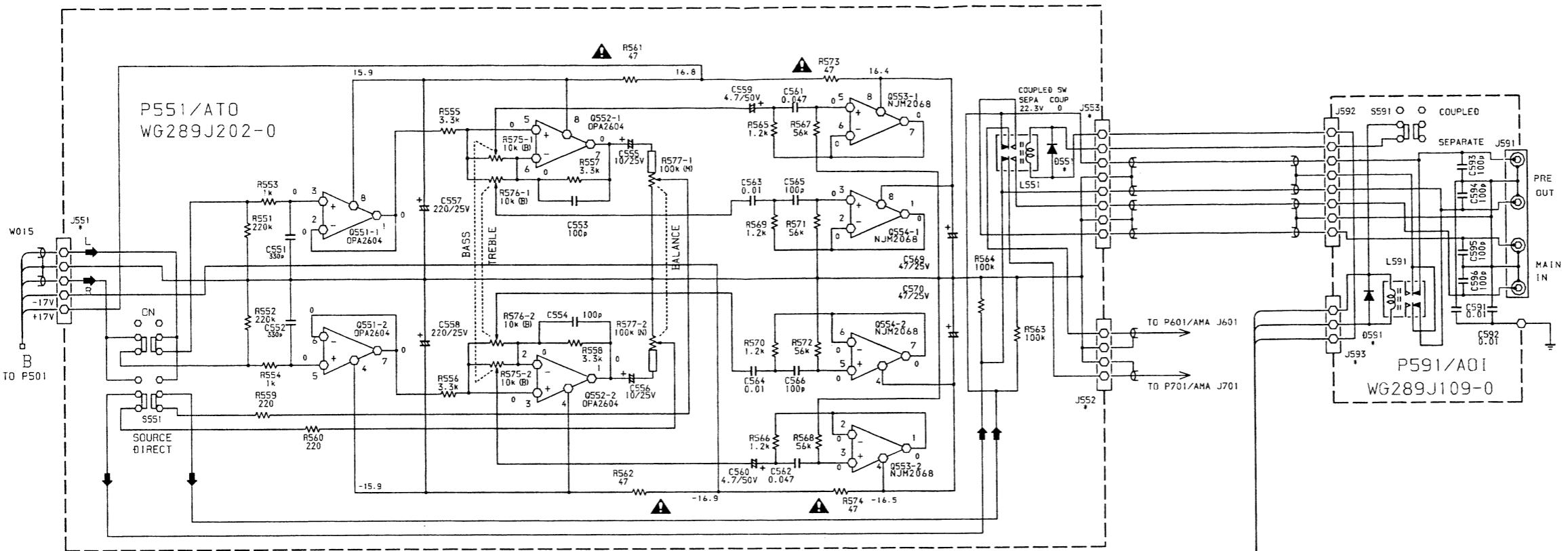


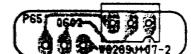
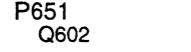
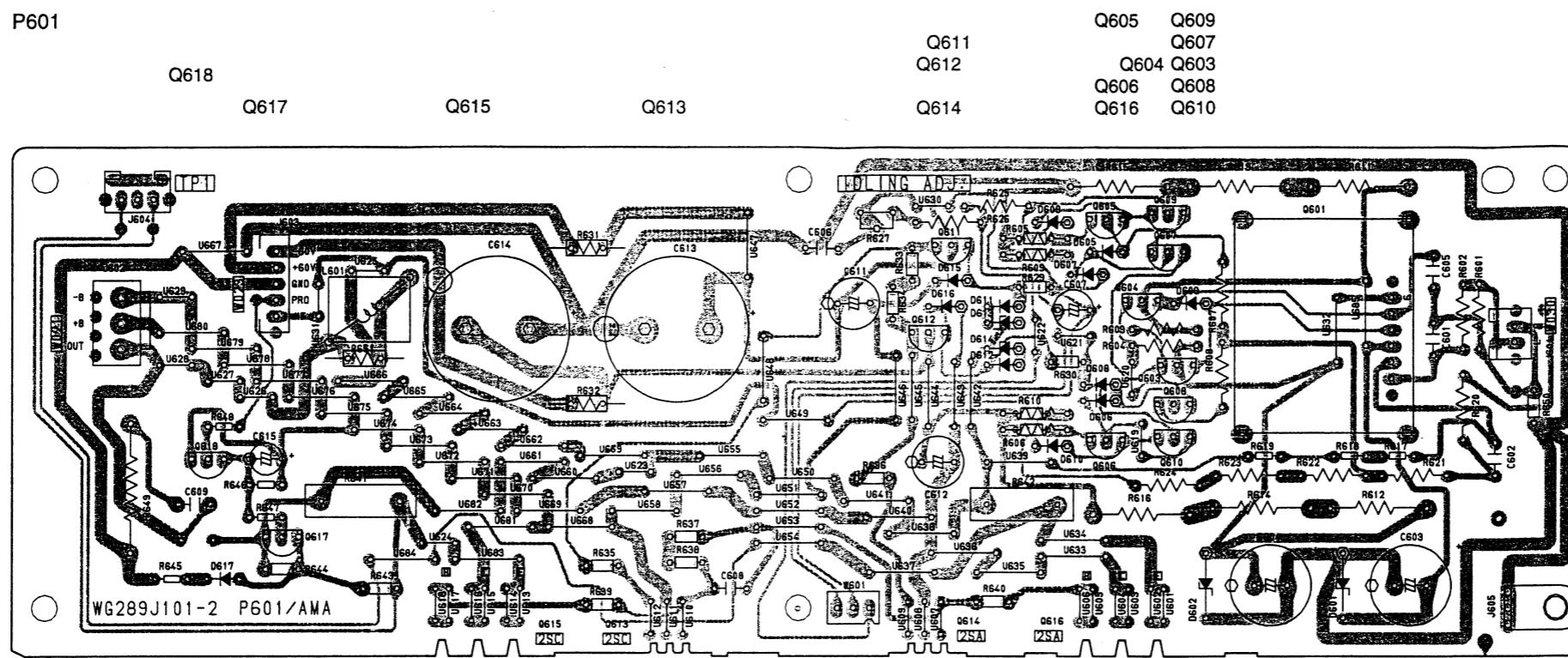
HDAM



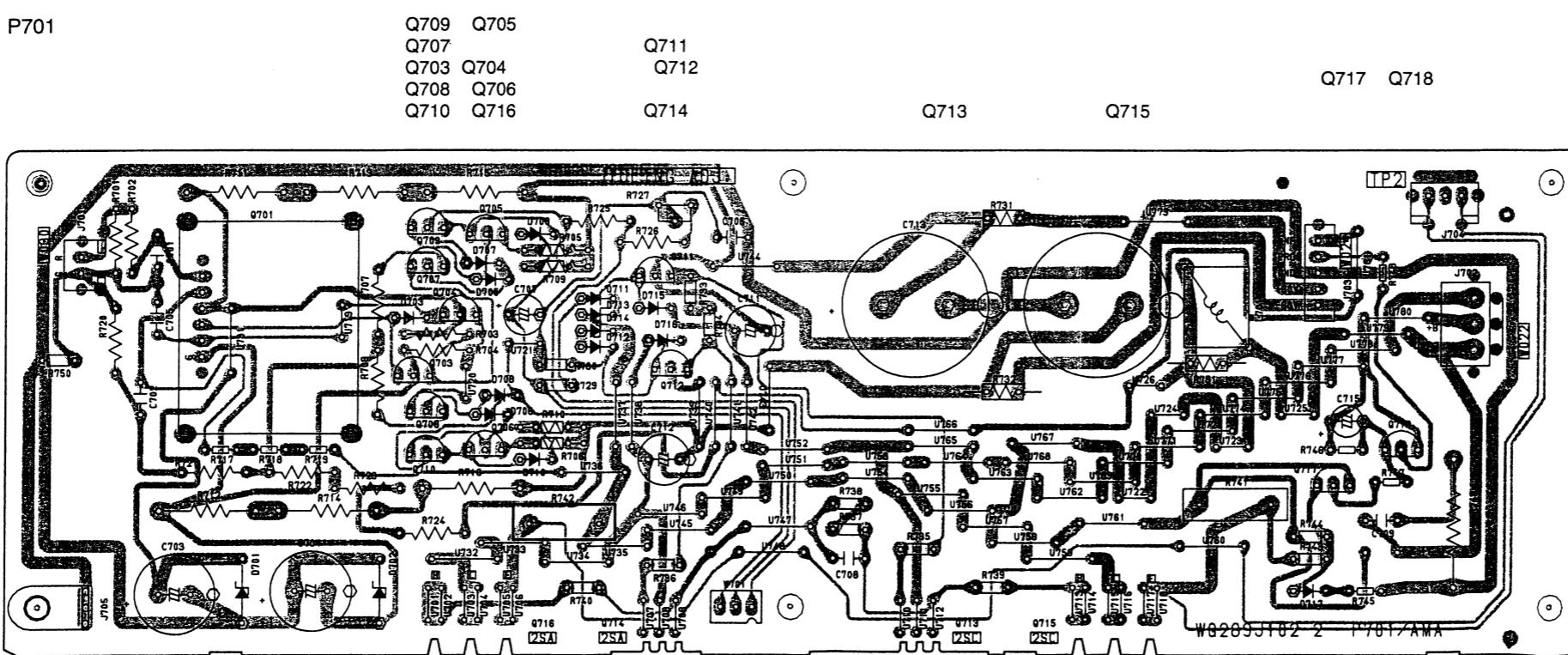
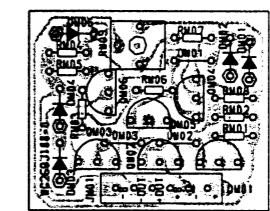






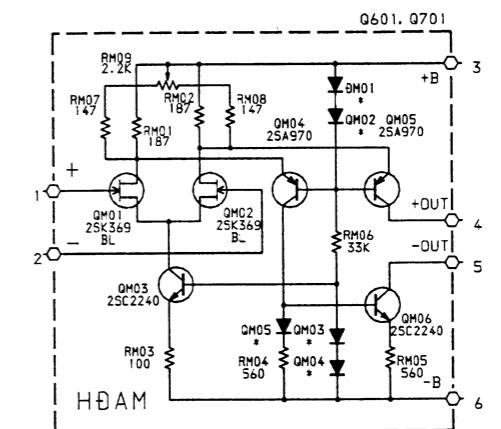
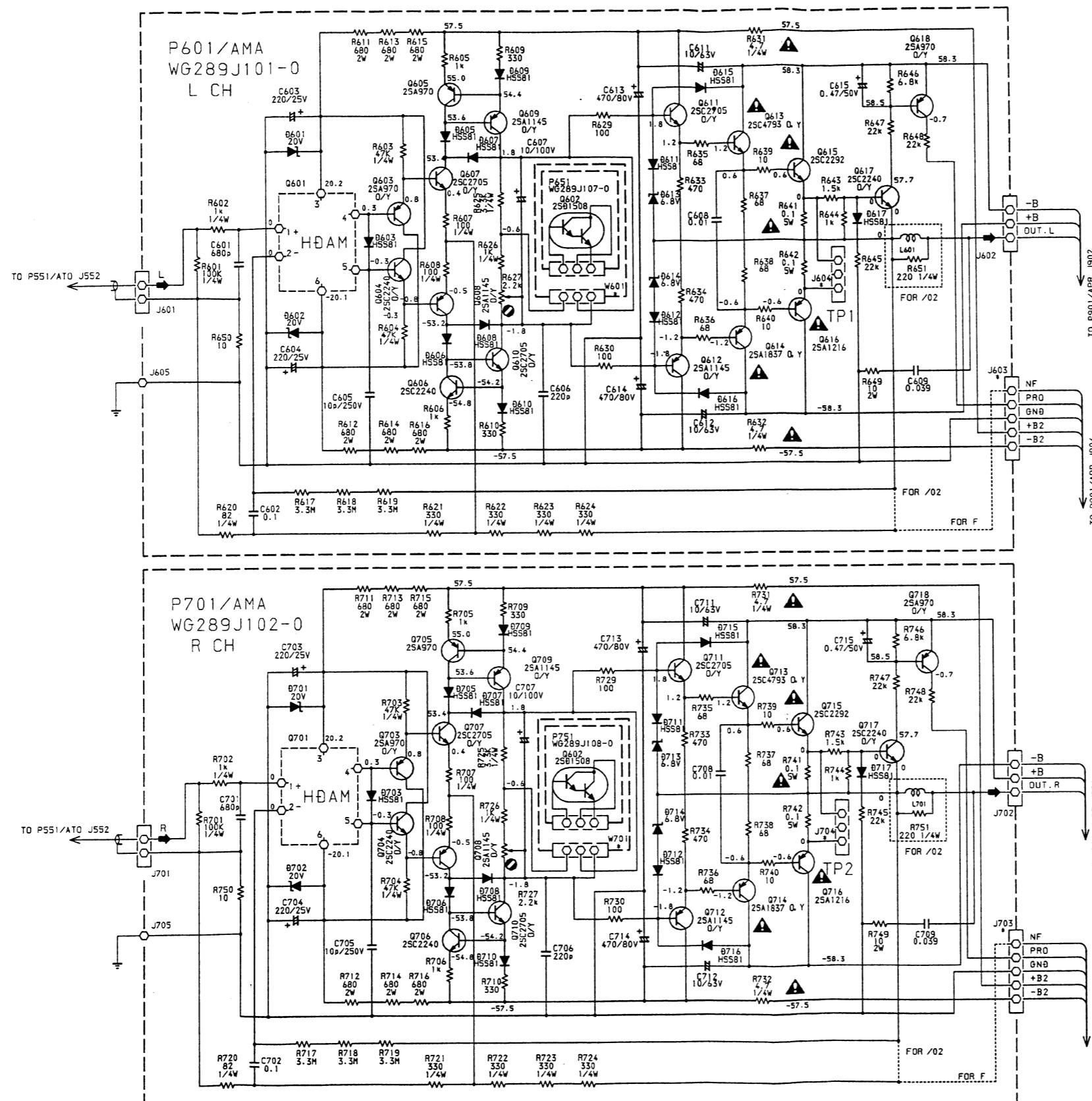


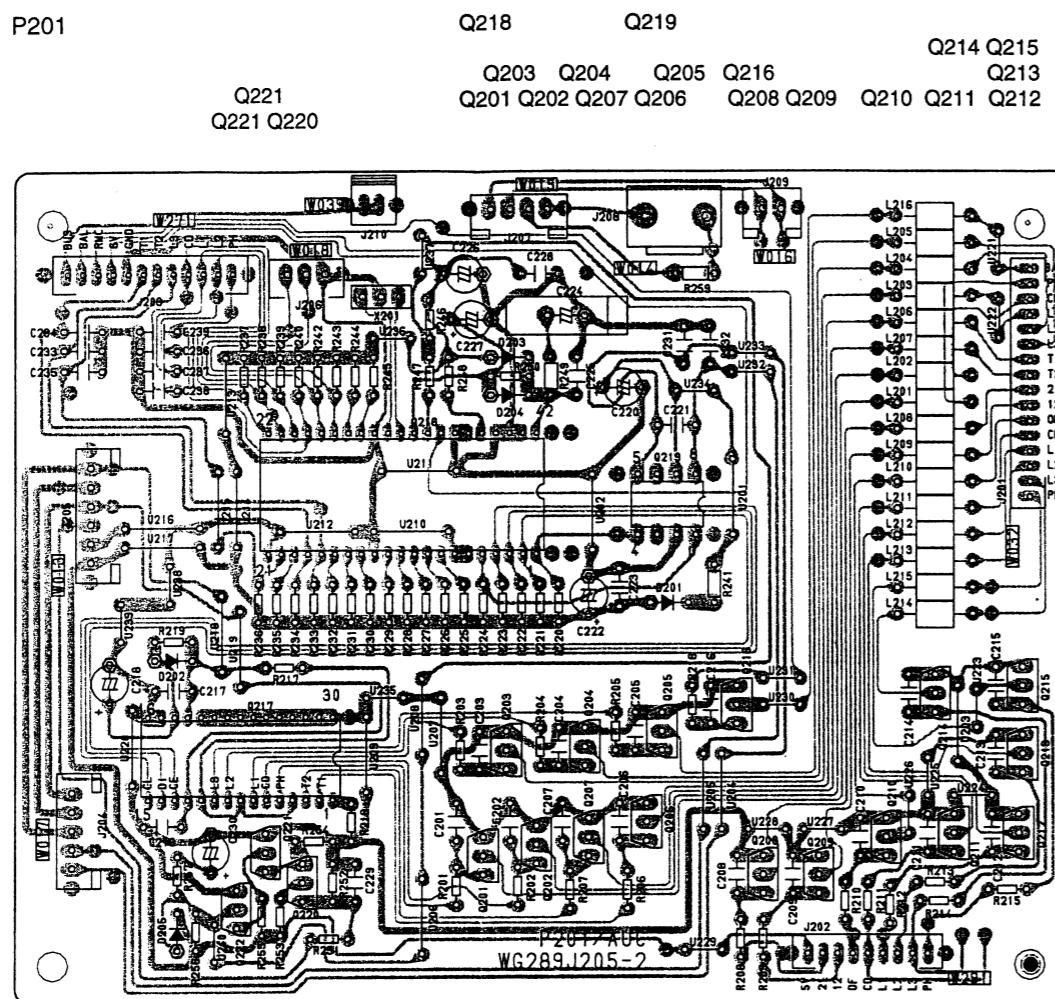
HDAM



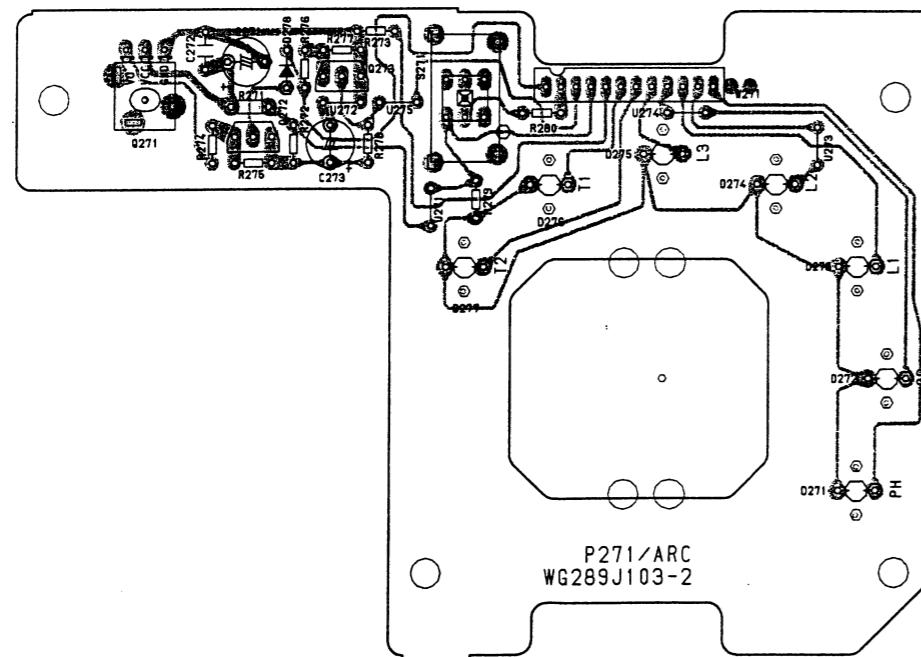
P751 Q702





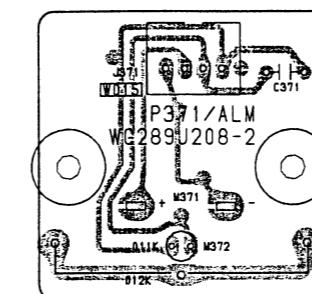


P271 Q212 Q213

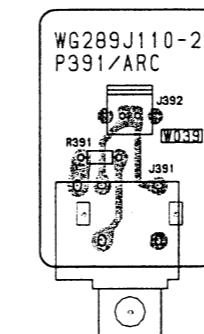


P271/AR  
WG289J103-

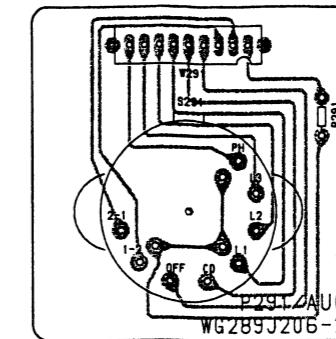
P37



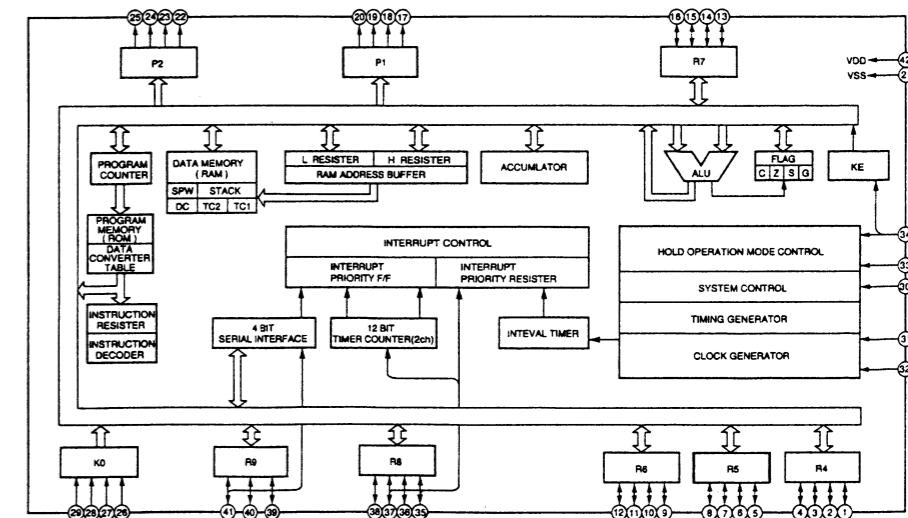
P39



P29

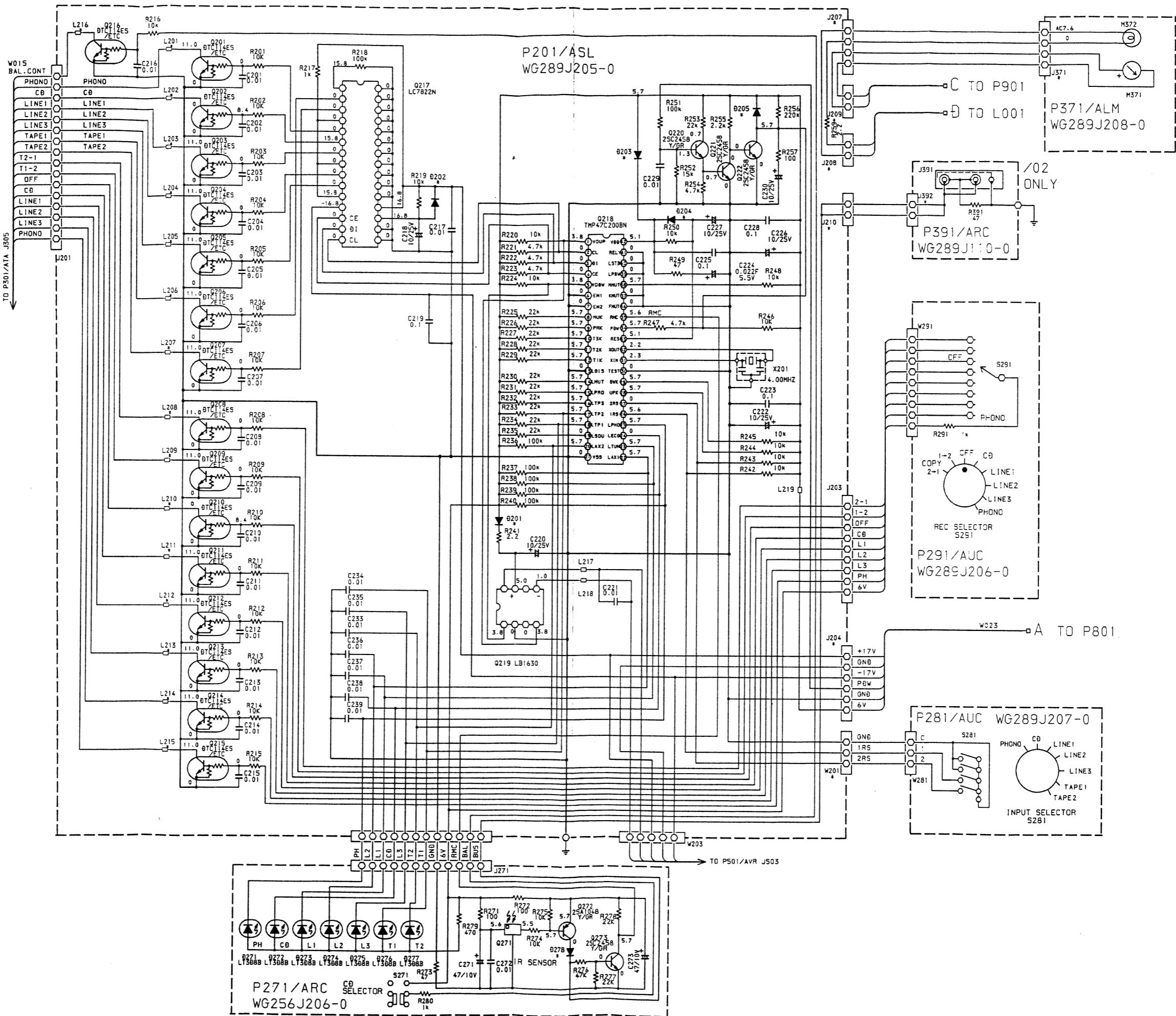


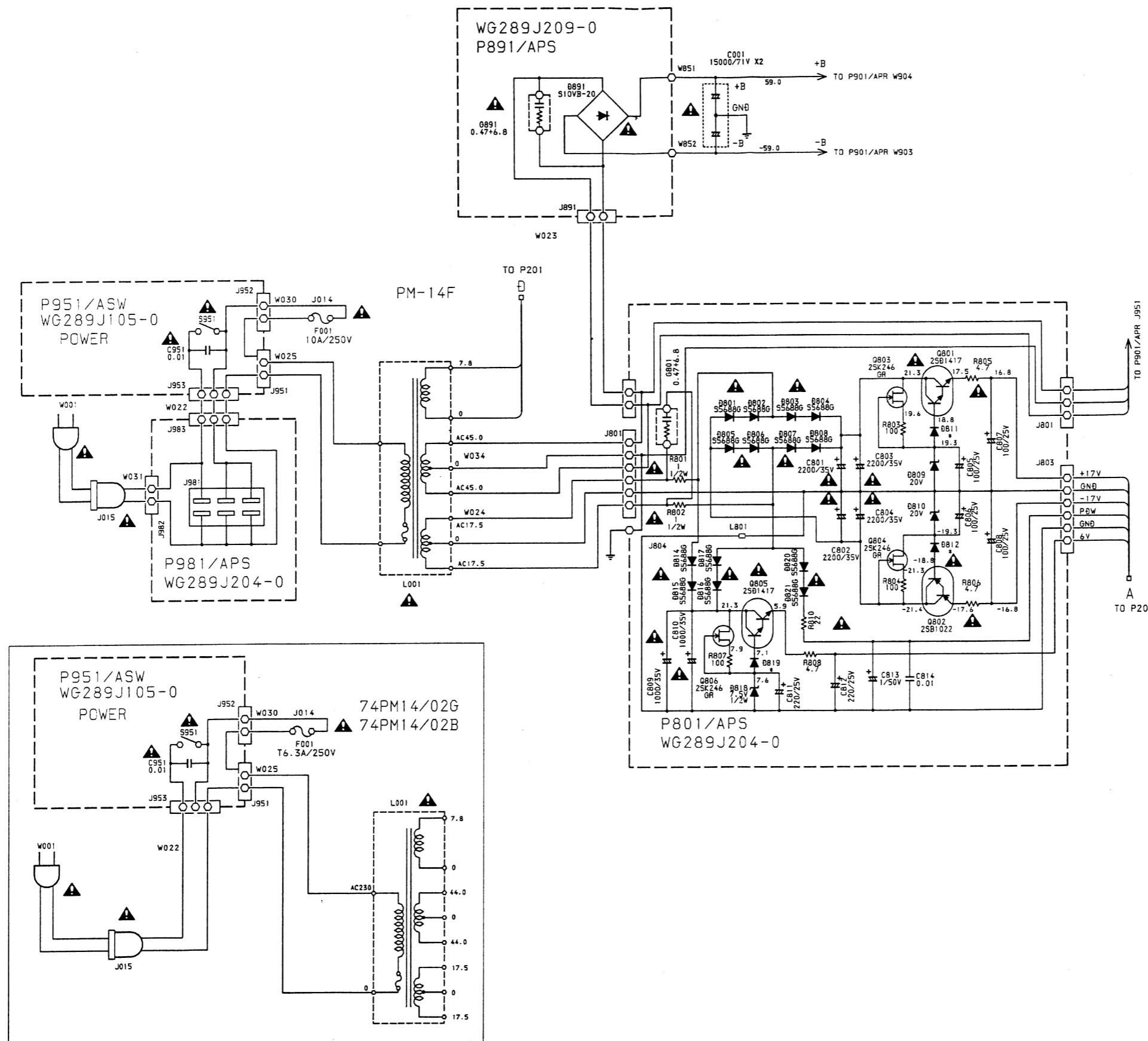
**MICROPROCESSOR**  
Q218 : TMP47C200BN

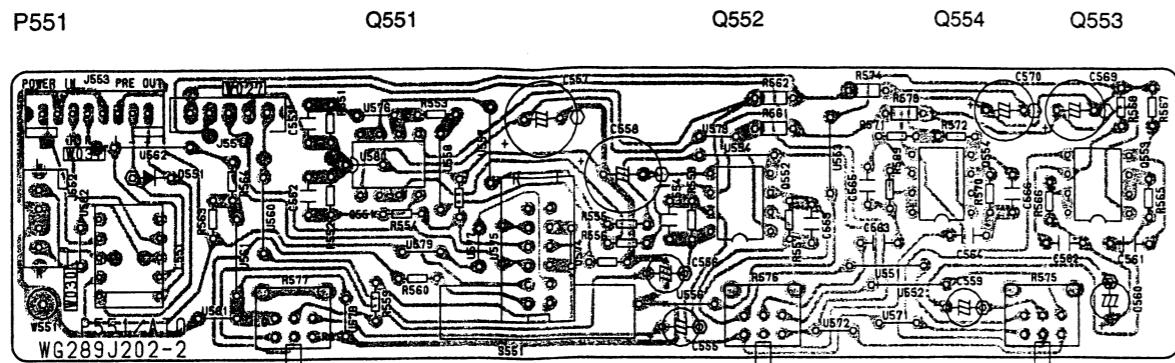


PIN NO.	PORT NAME	I/O	ACT	FUNCTION
1	R40	VOUP	O	VOLUME CONTROL (UP)
2	R41	CL	O	SERIAL OUTPUT (CLOCK)
3	R42	DI	O	SERIAL OUTPUT (DATA)
4	R43	CE	O	SERIAL OUTPUT (ENABLE)
5	R50	VODW	O	VOLUME CONTROL (DOWN)
6	R51	EN1	I	-
7	R52	EN2	I	-
8	R53	MUK	I	KEY INPUT MUTE
9	R60	PRK	I	-
10	R61	T3K	I	KEY INPUT TAPE3
11	R62	T2K	I	KEY INPUT TAPE2
12	R63	T1K	I	KEY INPUT TAPE1
13	R70	LDIS	O	LED DISPLAY OTHER
14	R71	LMUT	O	LED DISPLAY MUTE
15	R72	LPRO	O	LED DISPLAY PROCESSOR
16	R73	LTP3	O	LED DISPLAY TAPE3
17	P10	LTP2	O	LED DISPLAY TAPE2
18	P11	LTP1	O	LED DISPLAY TAPE1
19	P12	LSOU	O	LED DISPLAY SOURCE
20	P13	LAX2	O	LED DISPLAY AUX2
21	Vss	Vss	-	GND.

PIN NO.	PORT NAME		I/O	ACT	FUNCTION
22	P20	LAX1	O	L	LED DISPLAY AUX1
23	P21	LTUN	O	L	LED DISPLAY TUNER
24	P22	LECD	O	L	LED DISPLAY CD
25	P23	LPHO	O	L	LED DISPLAY PHONO
26	K00	1RS	I	L	ROTARY ENCODER BIT1
27	K01	2RS	I	L	ROTARY ENCODER BIT2
28	K02	UPK	I	L	SEQUENCE UP
29	K3	DWK	I	L	SEQUENCE DOWN
30	TEST	TEST	-	-	NOT USED (GND.)
31	XIN	XIN	-	-	CLOCK 4.00MHz
32	XOUT	XOUT	-	-	
33	RESET	RES	I	L	RESET
34	HOLD	PDW	I	L	POWER DOWN CHECK
35	R80	RMC	I	L	REMOTE CONTROL (RC-5)INPUT
36	R81	FMUT	O	L	KMUT + MMUT
37	R82	KMUT	O	L	FUNCTION MUTING
38	R83	MMUT	O	L	MANUAL MUTING
39	R90	LPOW	O	L	LED DISPLAY POWER
40	R91	LSTB	O	L	LED DISPLAY STANDBY
41	R92	RELY	O	H	STANDBY RELAY CONTROL
42	VDD	VDD	-	-	POWER SUPPLY +5.4V



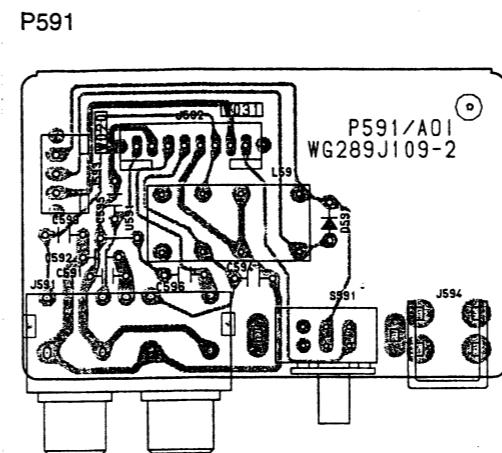




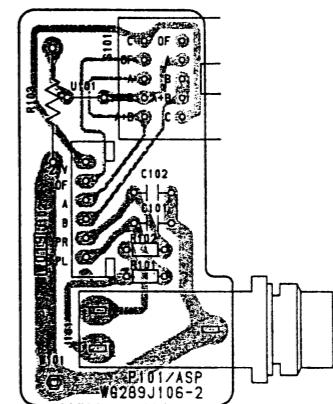
P901

Q904  
Q903                    Q906  
Q902

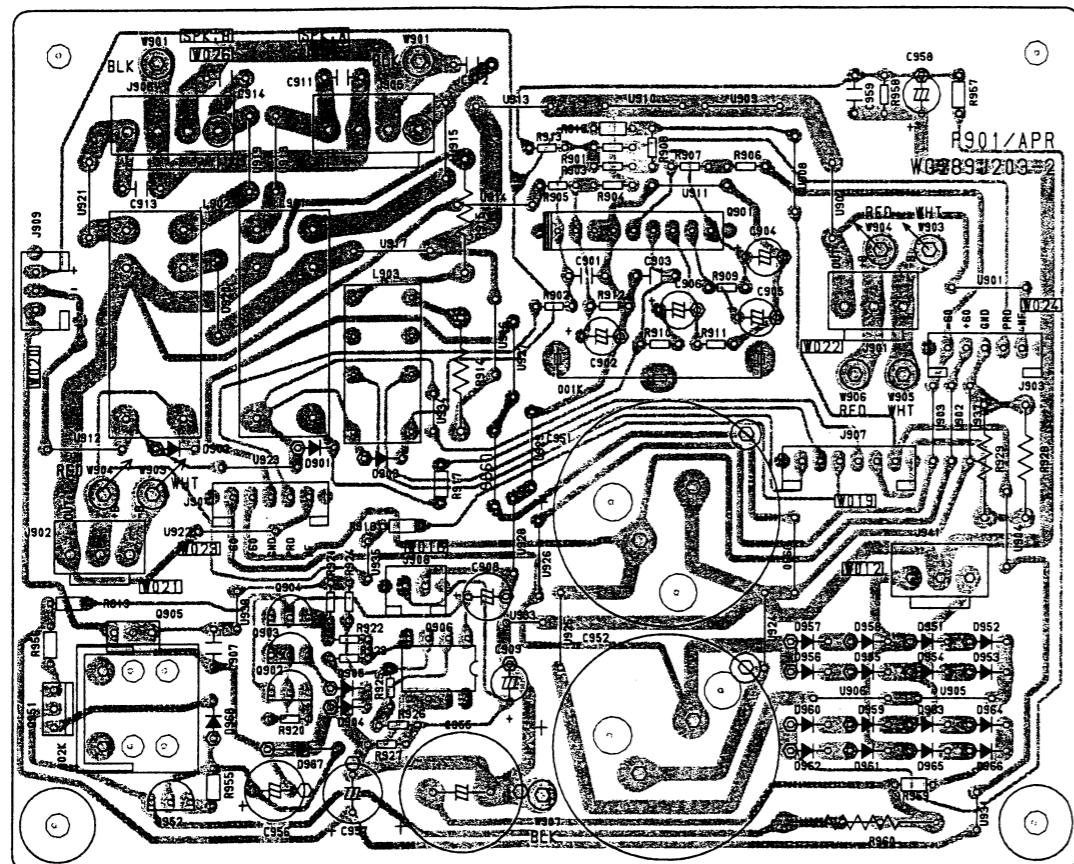
Q90



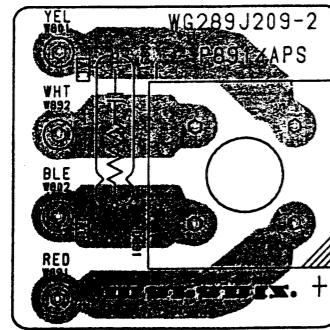
P101



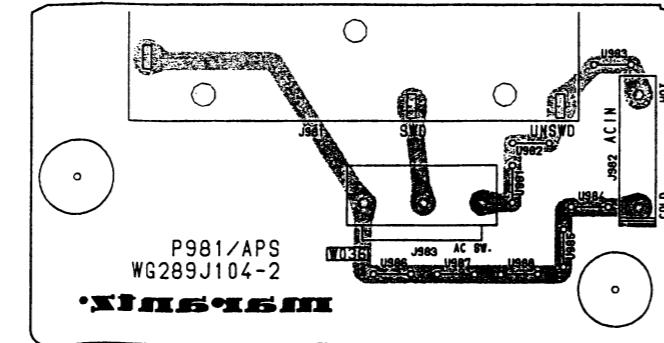
Q952



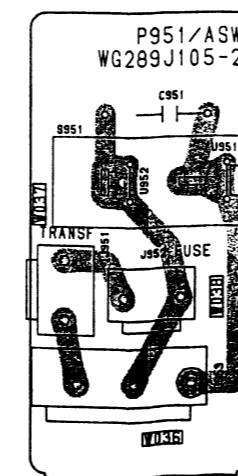
P891 [ F VERSION ]



P981 [ F VERSION ]



P951

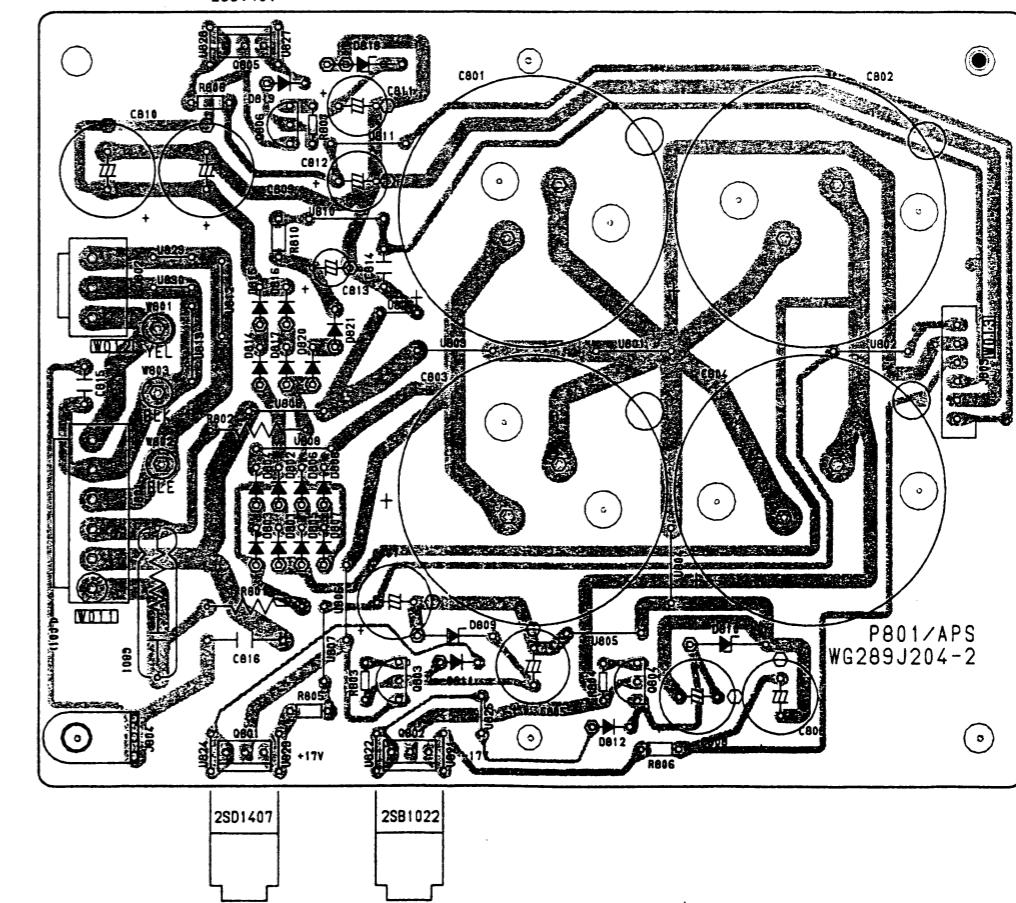


P85

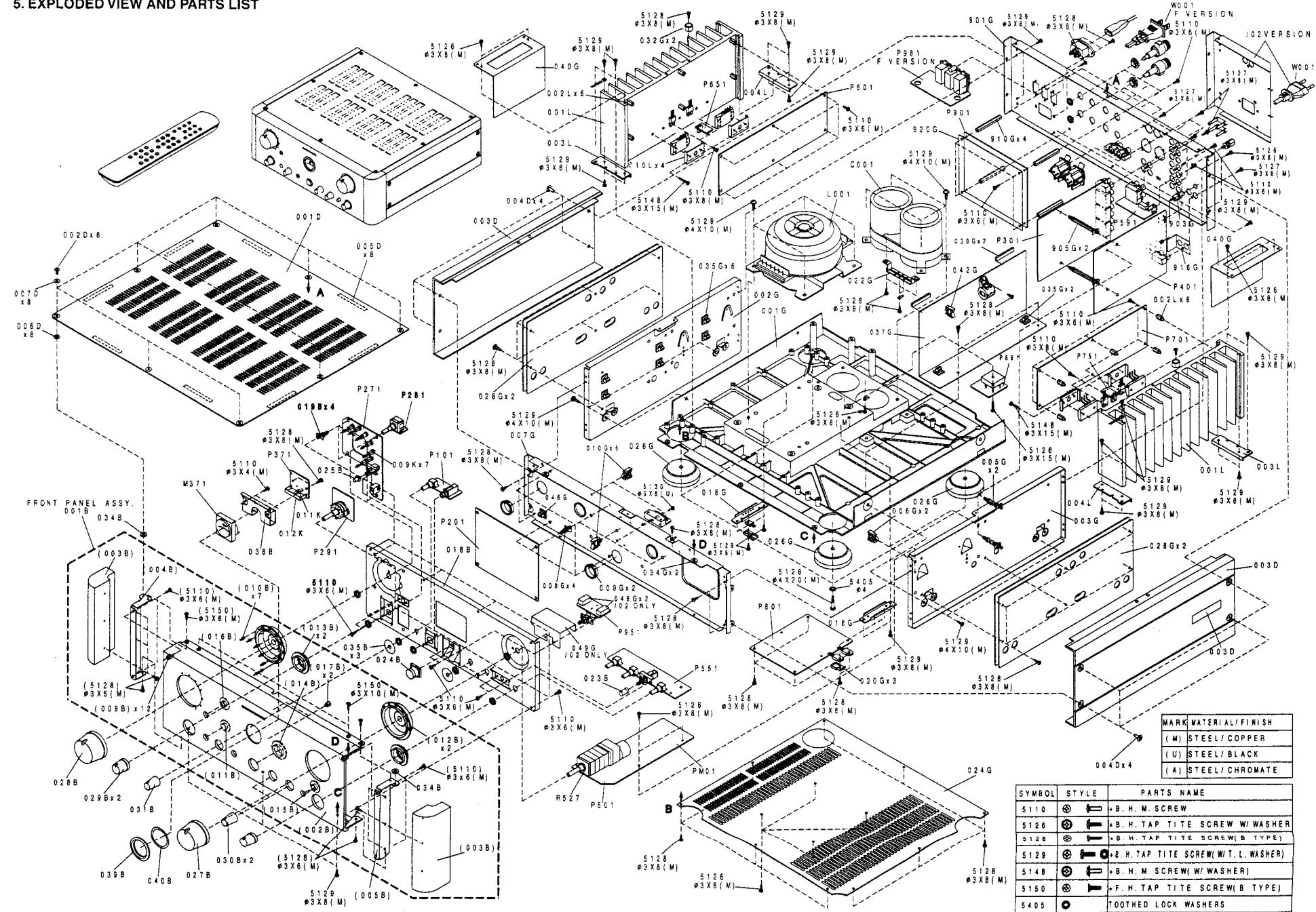
Q805  
Q806

Q801 Q803  
Q802  
2SD1407

Q804



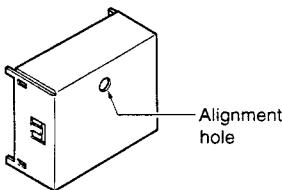
5. EXPLODED VIEW AND PARTS LIST



POS NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO (MJI)
001B	FN		FRONT PANEL ASSY GOLD	289J248510	J009	4822 265 11425	TERMINAL,WBT SPK,WHT		YT0101037C
001B	/02B		FRONT PANEL ASSY BLACK	289J248520	J010	4822 265 11424	TERMINAL,WBT SPK,RED		YT0101036C
001B	/02G		FRONT PANEL ASSY GOLD	289J248530	J011	4822 265 11425	TERMINAL,WBT SPK,WHT		YT0101037C
002B	FN		FRONT PANEL GOLD	289J248110	J012	4822 265 11424	TERMINAL,WBT SPK,RED		YT0101036C
002B	/02B	4822 459 05106	FRONT PANEL BLACK	289J248020	J013	4822 265 11425	TERMINAL,WBT SPK,WHT		YT0101037C
002B	/02G	4822 459 05107	FRONT PANEL GOLD	289J248120	▲ J014	F /02	4822 267 31818	JACK,FUSE HOLDER 31.8mm	YJ0800060C
003B	FN,/02G	4822 426 10074	ESCUTCHEON GOLD	256J063010	▲ J014	F /02	4822 265 11399	JACK,FUSE HOLDER 20mm	YJ0800061C
003B	/02B	4822 426 10075	ESCUTCHEON BLACK	256J063110	▲ J015			JACK,2P AC INLET SOT-16C	YJ0400236C
010B		4822 381 11893	LENS,INPUT ..TAPE1/TAPE2	269J355010	▲ L001	F		MAINS TRANSFORMER	TS4200204C
011B	FN,/02G	4822 381 12016	LENS,IR SENSOR GOLD	256J355030	▲ L001	/02	4822 146 11054	MAINS TRANSFORMER	TS4200205C
011B	/02B	4822 381 12015	LENS,IR SENSOR BLACK	256J355040	L002		4822 526 10891	FERRITE CORE TFCK-16-8-13	FC5016003C
012B	FN,/02G		BUSHING,VOL./INPUT SEL,GL	256J259210	R281		4822 052 10109	10Ω ±5% 1/4W	GG0510014C
012B	/02B		BUSHING,VOL./INPUT SEL,BL	256J259110					
013B	FN,/02G		BUSHING,BAL./REC SEL,GL	256J259020	▲ W001	F	4822 321 11337	MAINS CORD MITI	ZC0180208C
013B	/02B		BUSHING,BAL./REC SEL,BL	256J259120	▲ W001	/02	4822 321 11439	DC-302-J 125V	
014B	FN,/02G		BUSHING,FOR POWER GOLD	256J259030				MAINS CORD 2P 10A 250V	ZC0180308C
014B	/02B		BUSHING,FOR POWER BLACK	256J259130	001T	F		CLASS2	
015B	FN,/02G		BUSHING,SOURCE DIRECT	256J259040	001T	/02	4822 736 16441	PACKING	
015B	/02B		BUSHING,SOURCE DIRECT	256J259140				USER GUIDE	289J85111C
016B	FN,/02G		BUSHING,CD SELECTOR GL	289J259110				USER GUIDE	289J85131C
016B	/02B		BUSHING,CD SELECTOR BL	289J259010					
023B	FN,/02G	4822 410 63898	BUTTON,SOURCE DIRECT GL	144J270010	T100		4822 219 10324	REMOTE COMMANDER	
023B	/02B	4822 410 10227	BUTTON,SOURCE DIRECT BL	144J270110				RC-17PM	ZK269J001C
024B	FN,/02G	4822 410 11276	BUTTON,POWER GOLD	176J270150					
024B	/02B	4822 410 11275	BUTTON,POWER BLACK	176J270050					
025B	FN,/02G	4822 410 12027	BUTTON,CD SELECTOR GL	289J270110					
025B	/02B	4822 410 12026	BUTTON,CD SELECTOR BL	289J270010					
027B	FN,/02G	4822 410 12029	KNOB,MASTER VOLUME GL	289J154110					
027B	/02B	4822 410 12028	KNOB,MASTER VOLUME BL	289J154010					
028B	FN,/02G	4822 410 12032	KNOB,INPUT SELECTOR GL	289J154120					
028B	/02B	4822 410 12031	KNOB,INPUT SELECTOR BL	289J154020					
029B	FN,/02G	4822 410 12034	KNOB,BAL/REC,SEL GOLD	289J154130					
029B	/02B	4822 410 12033	KNOB,BAL/REC,SEL BLACK	289J154030					
030B	FN,/02G	4822 410 12036	KNOB,BASS/TREBLE GOLD	289J154140					
030B	/02B	4822 410 12035	KNOB,BASS/TREBLE BLACK	289J154040					
031B	FN,/02G	4822 410 12038	KNOB,SPEAKER GOLD	289J154150					
031B	/02B	4822 410 12037	KNOB,SPEAKER BLACK	289J154050					
039B	FN,/02G	4822 532 13059	ESCUTCHEON,METER GOLD	289J063110					
039B	/02B	4822 532 13058	ESCUTCHEON,METER BLACK	289J063010					
040B			STICKER,ADHESIVE FOR METER ESCUTCHEON	289J122010					
001D	FN,/02G	4822 442 01523	TOP LID GOLD	256J257020					
001D	/02B	4822 442 01522	TOP LID BLACK	256J257120					
002D	FN,/02G	4822 502 14425	SCREW FOR TOP LID GOLD	323S010220					
002D	/02B	4822 502 21693	SCREW FOR TOP LID BLACK	323S010030					
003D	FN,/02G	4822 426 10718	SIDE PANEL GOLD	256J249010					
003D	/02B	4822 426 10717	SIDE PANEL BLACK	256J249110					
004D	FN,/02G	4822 502 14613	SCREW,SIDE PANEL GOLD	258S010020					
004D	/02B	4822 502 14612	SCREW,SIDE PANEL BLACK	258S010010					
026G		4822 462 11116	LEG GOLD	163J057410					
903G		4822 410 12039	BUTTON,MM/MC SEL,SW	058J270060					
▲ C001	F		ELECT,15000μF 71V	E115907110					
▲ C001	/02	4822 124 12279	ELECT,15000μF 71V	E115907120					
▲ F001	F		ALB-H 63X80					NOT STANDARD SPARE PARTS	
▲ F001	/02	4822 070 36302	FUSE,10A 250V MITI GRU	FS11000570				PACKING CASE GOLD	289J801020
			FUSE,T6.3A 250V BS LISTED	FS10630850				CUSHION L/R	256J80910C
J002		4822 290 81671	TERMINAL,2P RCA GLD T6021	YT32021240					ZF24302000
J003			PLUG,XLM-3-31PCS	YP10003300					
J004			PLUG,XLM-3-31PCS	YP10003300					
J006		4822 265 11424	TERMINAL,WBT SPK,RED	YT01010360					
J007		4822 265 11425	TERMINAL,WBT SPK,WHT	YT01010370					
J008		4822 265 11424	TERMINAL,WBT SPK,RED	YT01010360					

## 6. DC OFFSET VOLTAGE ALIGNMENT

- Before switching the mains switch. Turn down the master volume to the minimum position and set the balance volume and tone volumes at the center positions. Set variable resistors R627(on the PCB P601:L ch) and R727(on the PCB P701:R ch) fully counterclockwise.
- Connect the digital voltage meter to the speaker terminal. And set the digital voltage meter for the DC position.
- Turn the mains switch ON. Put thin adjustment screw driver in to the hole of the HDAM (Q601:L ch / Q701:R ch) copper cover. Adjust variable resistors in the HDAM (Q601:L ch / Q701:R ch) value at 0mV  $\pm$ 5mV with in 10 seconds after speaker relay turn ON.



## 7. IDLING CURRENT ALIGNMENT

### REMARK

Before "Idling current alignment", " DC offset voltage alignment" have to be done!!

- Each of connectors J604(TP1) (on the PCB P601:Lch) and J704(TP2) (on the PCB P701:Rch) are provided with three test points. Connect the digital voltage meter, set for the DC voltage input, to the test points at the two extremities of three test points of J604(TP1) and J704(TP2).
- After the setup above, turn the mains switch ON and heat up the amplifier about 10 minutes.
- Adjust variable resistors R627(on the PCB P601:L ch) and R727(on the PCB P701:R ch) according to the digital volt meter reading. The target setting value is 12mV(60mA) for both L ch and R ch.

## DC オフセット電圧調整

- 本体の電源スイッチを入れるまえに、ボリュームを最小に、バランス及びトーンコントロールをセンターに合わせます。P601基板上のR627(L ch)及びP701基板上のR727(R ch)の半固定抵抗を反時計回りにしぼりきります。
- 本体背面のスピーカー端子にデジタルボルトメータを接続します。(レンジはDCに設定する。)
- HDAM(Q601:L ch/Q701:R ch)のカバーにあいた穴に調整用ドライバーをさしみ、中の半固定抵抗を回せるようになります。電源スイッチをオンにし、スピーカーリレーがオンになってから10秒以内に半固定抵抗を回しデジタルボルトメータの値が0mV  $\pm$ 5mVになるように調整します。

## アイドリング電流調整

### 【注意】

アイドリング電流の調整は必ずDCオフセット電圧の調整を終えてから行って下さい。

- P601基板上のコネクターJ604(TP1)及びP701基板上のコネクターJ704(TP2)の3本の調整用端子のうちの両端の2本にデジタルボルトメーターを接続します。(レンジはDCに設定する。)
- 電源スイッチをオンにし、アイドリング電流が安定するまで、およそ10分間放置します。
- P601基板上の半固定抵抗R627(L ch)とP701基板上の半固定抵抗R727(R ch)を時計回りにまわしデジタルボルトメーターの値が12mV  $\pm$ 1mV(60mA)になるように調整します。

## 8. ELECTRICAL PARTS LIST

### ASSIGNMENT OF COMMON PARTS CODES.

#### RESISTORS

R\*\*\*: 1) GD05  $\times \times \times$  140, Carbon film fixed resistor,  $\pm 5\%$  1/4W  
R\*\*\*: 2) GD05  $\times \times \times$  160, Carbon film fixed resistor,  $\pm 5\%$  1/6W

① —— Resistance value

Examples :

① Resistance value  
0.1  $\Omega$  ... 001 10  $\Omega$  ... 100 1 k $\Omega$  ... 102 100 k $\Omega$  ... 104  
0.5  $\Omega$  ... 005 18  $\Omega$  ... 180 2.7 k $\Omega$  ... 272 680 k $\Omega$  ... 684  
1  $\Omega$  ... 010 100  $\Omega$  ... 101 10 k $\Omega$  ... 103 1 M $\Omega$  ... 105  
6.8  $\Omega$  ... 068 390  $\Omega$  ... 391 22 k $\Omega$  ... 223 4.7 M $\Omega$  ... 475

Note : Please distinguish 1/4W from 1/6W by the shape of parts used actually.

#### CAPACITORS

C\*\*\*: CERAMIC CAP.

③ DD1  $\times \times \times$  370, Ceramic capacitor  
Disc type  
Temp.coeff.P350 ~ N1000, 50V  
② ③ Capacity value  
Tolerance

Examples :

② Tolerance (Capacity deviation)  
 $\pm 0.25\%$  ... 0  
 $\pm 0.5\%$  ... 1  
 $\pm 5\%$  ... 5

\* Tolerance of COMMON PARTS handled here are as follows :

0.5 pF ~ 5 pF ...  $\pm 0.25\%$   
6 pF ~ 10 pF ...  $\pm 0.5\%$   
12 pF ~ 560 pF ...  $\pm 5\%$   
③ Capacity value  
0.5 pF ... 005 3 pF ... 030 100 pF ... 101  
1 pF ... 010 10 pF ... 100 220 pF ... 221  
1.5 pF ... 015 47 pF ... 470 560 pF ... 561

C\*\*\* : CERAMIC CAP.

④ DK16  $\times \times \times$  300, High dielectric constant ceramic capacitor  
Disc type  
Temp.chara. 2B4, 50V  
④ Capacity value

Examples :

④ Capacity value  
100 pF ... 101 1000 pF ... 102 10000 pF ... 103  
470 pF ... 471 2200 pF ... 222

C\*\*\* : 5) ELECTROLY CAP. (  $\frac{1}{2}$  ), 6) FILM CAP. (  $\frac{1}{2}$  )

5) EA  $\times \times \times \times \times$  10, Electrolytic capacitor  
One-way lead type, Tolerance  $\pm 20\%$   
⑤ ⑥ Working voltage  
Capacity value

Examples :

⑤ Capacity value  
0.1  $\mu$ F ... 104 4.7  $\mu$ F ... 475 100  $\mu$ F ... 107  
0.33  $\mu$ F ... 334 10  $\mu$ F ... 106 330  $\mu$ F ... 337  
1  $\mu$ F ... 105 22  $\mu$ F ... 226 1100  $\mu$ F ... 118  
2200  $\mu$ F ... 228

⑥ Working voltage

6.3V ... 006 25V ... 025  
10V ... 010 35V ... 035  
16V ... 016 50V ... 050

6) DF15  $\times \times \times$  350 — Plastic film capacitor  
One-way type, Mylar  $\pm 5\%$  50V  
DF15  $\times \times \times$  310 — Plastic film capacitor  
One-way type, Mylar  $\pm 10\%$  50V  
⑦ Capacity value

Examples :

⑦ Capacity value  
0.001  $\mu$ F (1000 pF) ... 102 0.1  $\mu$ F ... 104  
0.0018  $\mu$ F ..... 182 0.56  $\mu$ F ... 564  
0.01  $\mu$ F ..... 103 1  $\mu$ F ... 105  
0.015  $\mu$ F ..... 153

NOTE : 1) The above CODES (R\*\*\*, R\*\*\*, C\*\*\*, C\*\*\* and C\*\*\* ) are omitted on the schematic diagram in some case.

2) On the occasion, be confirmed the common parts on the parts list.

3) Refer to "Common Parts List" for the other common parts (R105, DD4, DK4).

### NOTE ON SAFETY FOR FUSIBLE RESISTOR :

The suppliers and their type numbers of fusible resistors are as follows:

Part No. (MJI)	Type No. (KOA)	Description
NH05 $\times \times \times$ 140	RF25S $\times \times \times \times \Omega$	( $\pm 5\%$ 1/4W)
NH05 $\times \times \times$ 120	RF50S $\times \times \times \times \Omega$	( $\pm 5\%$ 1/2W)
NH85 $\times \times \times$ 110	RF73B2A $\times \times \times \times \Omega$	( $\pm 5\%$ 1/10W)
NH95 $\times \times \times$ 140	RF73B2E $\times \times \times \times \Omega$	( $\pm 5\%$ 1/4W)

Part No. (MJI)	Type No. (MEC)	Description
NF05 $\times \times \times$ 140	ERD-2FCJ $\times \times \times$	( $\pm 5\%$ 1/4W)
NF05 $\times \times \times$ 140	ERD-2FCG $\times \times \times$	( $\pm 2\%$ 1/4W)
NF02 $\times \times \times$ 140	ERD-2FCG $\times \times \times$	( $\pm 2\%$ 1/4W)

Examples :  
\* Resistance value  
0.1  $\Omega$  ... 001 10  $\Omega$  ... 100 1 k $\Omega$  ... 102 100 k $\Omega$  ... 104  
0.5  $\Omega$  ... 005 18  $\Omega$  ... 180 2.7 k $\Omega$  ... 272 680 k $\Omega$  ... 684  
1  $\Omega$  ... 010 100  $\Omega$  ... 101 10 k $\Omega$  ... 103 1 M $\Omega$  ... 105  
6.8  $\Omega$  ... 068 390  $\Omega$  ... 391 22 k $\Omega$  ... 223 4.7 M $\Omega$  ... 475

## ABBREVIATION AND MARKS

ANT.	ANTENNA	BATT.	BATTERY
CAP.	CAPACITOR	CER.	CERAMIC
CONN.	CONNECTING	DIG.	DIGITAL
HP	HEADPHONE	MIC.	MICROPHONE
μ-PRO	MICROPROCESSOR	REC.	RECORDING
RES.	RESISTOR	SPK.	SPEAKER
SW.	SWITCH	TRANS.	TRANSFORMER
TRIM.	TRIMMING	TRS.	TRANSISTOR
VAR.	VARIABLE	XTRAL.	CRYSTAL

### NOTE ON SAFETY :

Symbol Fire or electrical shock hazard. Only original parts should be used to replaced any part marked with symbol . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

### 安全上の注意 :

がついている部品は、安全上重要な部品です。必ず指定されている部品番号の部品を使用して下さい。

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)									
C101 /02	4822 121 42754	P101-SPK.SW. & HEAD PHONES CIRCUIT BOARD P101-CAPACITORS	FILM,0.01μF ±5% 50V FILM,0.01μF ±5% 50V	OF15103010 OF15103010	X201	4822 242 72527	SERAMIC VIB.,CST4.00MGW CERALOCK	FQ04004030										
C102 /02	4822 121 42754	P101-RESISTORS	47Ω ±5% 1/W 47Ω ±5% 1/W 82Ω ±5% 1W	GG05470160 GG05470160 GA05821010	C271	4822 124 23563	P271-IR SENSOR & IND. CIRCUIT BOARD P271-CAPACITORS	ELECT,47μF 10V CER,0.01μF +80% -20% 50V ELECT,47μF 10V	EG47601050 DD38103010 EG47601050	J301	4822 290 81598	P301-MISCELLANEOUS TERMINAL,2P RCA YKC21-3255 GOLD	YT02021130	C465	4822 126 12496	CER,..0.01μF +80% -20% 50V	DD38103010	
					C272					J302				C466				
R101	4822 052 10479	P101-RESISTORS	47Ω ±5% 1/W 47Ω ±5% 1/W 82Ω ±5% 1W	GG05470160 GG05470160 GA05821010	C273	4822 124 23563	P271-RESISTOR	100Ω ±5% 1/W	GG05101160	L301	4822 280 20501	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	LY20240413	C467	4822 124 41543	P401-RESISTORS	ELECT.,1μF 50V	DD38103020
					R271					L315				R401				
J101 /02G	4822 267 31692	P101-MISCELLANEOUS	H.P. JACK HLJ0540-01-430 H.P. JACK HLJ0540-01-410	YJ01003880 YJ01003870	R272	4822 052 10101	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	C371	4822 126 12496	P371-METER CIRCUIT BOARD	CE,..0.01μF +80% -20% 50V	DD38103010	R402	4822 111 20407	100,031 1% 1/W ERDPS2F	NR01101140
					R273					R304				R403				
S101	4822 273 10337	ROTARY SW.,SRBU14N-P2020	SR2040260		R274	4822 124 41543	P201-μ-COM CIRCUIT BOARD P201-CAPACITORS	P201-RESISTORS	100Ω ±5% 1/W	C372	4822 344 14034	P391-RC-5 CIRCUIT BOARD [02 VERSION]	D.C METER,MG-28	IM11030030	R404	4822 111 20424	33Ω ±1% 1/W ERD	NR01330140
					R275					R305				R405				
C201 /	4822 121 42754	P101-RESISTORS	FILM,0.01μF ±5% 50V	OF15103010	D271	4822 130 80326	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	R373	4822 126 12496	P401-RESISTORS	ELECT.,1μF 50V	DD38103010	R406	4822 111 20428	47Ω 1% 1/W ERD	NR01473140
					D272					R306				R407				
C217	4822 124 41543	P101-RESISTORS	ELECT.,10μF M 50V RA-2	OA10602520	D278	4822 130 32362	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	R374				R408				
					D279					R307				R409				
C218	4822 124 41543	P101-RESISTORS	CER,..0.1μF +80% -20% 50V	DD38104010	C271	4822 209 16735	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	R375				R410				
					D272					R308				R411				
C219	4822 122 40617	P101-RESISTORS	ELECT.,10μF M 25V RA-2	OA10602520	C273	4822 130 60107	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	C401				R412				
					D274					R309				R413				
C220	4822 124 41543	P101-RESISTORS	ELECT.,10μF M 25V RA-2	OA10602520	C275	4822 130 60839	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	C402				R414				
					D276					R310				R415				
C221	4822 121 42754	P101-RESISTORS	ELECT.,10μF M 25V RA-2	OA10602520	C277	4822 130 60839	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	C403				R416				
					D278					R311				R417				
C222	4822 124 41543	P101-RESISTORS	ELECT.,10μF M 25V RA-2	OA10602520	C279	4822 130 60839	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	C404				R418				
					D280					R312				R419				
C223	4822 122 40617	P101-RESISTORS	CER,..0.1μF +80% -20% 50V	DD38104010	C281	4822 273 10363	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	C405				R420				
					D282					R313				R421				
C224	4822 124 41543	P101-RESISTORS	CER,..0.1μF +80% -20% 50V	DD38104010	C283	4822 276 14018	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	C406				R422				
					D284					R314				R423				
C225	4822 122 40617	P101-RESISTORS	CER,..0.1μF +80% -20% 50V	DD38104010	C285	4822 276 14018	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	C407				R424				
					D286					R315				R425				
C226	4822 124 41543	P101-RESISTORS	ELECT.,10μF M 25V RA-2	OA10602520	C287	4822 273 10363	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	C408				R426				
					D288					R316				R427				
C227	4822 124 41543	P101-RESISTORS	ELECT.,10μF M 25V RA-2	OA10602520	C289	4822 273 10303	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	C409				R428				
					D290					R317				R429				
C228	4822 122 40617	P101-RESISTORS	CER,..0.1μF +80% -20% 50V	DD38104010	C291	4822 273 10303	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	C410				R430				
					D292					R318				R431				
C229	4822 121 42754	P101-RESISTORS	FILM,0.01μF ±5% 50V	OF15103010	C293	4822 124 41543	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	C411				R432				
					D294					R319				R433				
R241	4822 052 10228	P201-RESISTORS	2.2Ω ±5% 1/W	GG05022160	C301	4822 124 41543	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	C412				R434				
					D295					R320				R435				
R249	4822 052 10479	P201-RESISTORS	47Ω ±5% 1/W	GG05470160	C302	4822 124 41543	P271-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/W : R272-R280	100Ω ±5% 1/W	GG05101160	C413				R436				
					D296					R321				R437				

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			P501-VOL.AMP. CIRCUIT BOARD P501-CAPACITORS		L501 S			P501-MISCELLANEOUS	
C501	4822 121 10796	FILM,220pF ±5% 100V	OF5522153C		L504		4822 158 60605	FERRIT BEADS B-01-RT	FC90050060
C502	4822 121 10796	FILM,220pF ±5% 100V	OF5522*530						
C503	4822 121 70322	FILM,0.1μF ±5% 100V	OF55104530					P551-TONE AMP. CIRCUIT BOARD	
C504	4822 121 70322	FILM,0.1μF ±5% 100V	OF55104530					P551-CAPACITORS	
C505	4822 123 30089	MICA,22pF ±5% 500V FE	DF35220520					FILM,330pF ±1% 100V PP	OF15331540
	4822 123 30089	MICA,22pF ±5% 500V FE	DF35220520					FILM,330pF ±1% 100V PP	OF15331540
C508					C551	4822 126 14166			OF15101540
C509	4822 124 80578	ELECT.,22μF 25V ARA	0A22602550		C552	4822 126 14166			OF15101540
C510	4822 124 80578	ELECT.,22μF 25V ARA	0A22602550		C553	4822 121 70543			OF15101540
C511					C554	4822 121 70543			OF15101540
C514	4822 124 90051	ELECT.,220μF M 25V ARA	0A22702550		C555	4822 124 90386			OF140622550
C515	4822 121 70322	FILM,0.1μF ±5% 100V	OF55104530		C556	4822 124 90386			OF140622550
C516	4822 121 70322	FILM,0.1μF ±5% 100V	OF55104530		C557	4822 124 90051			OF122702550
C517	4822 124 23112	ELECT.,10μF 16V	EQ1060*630		C558	4822 124 90051			OF147505020
C518	4822 124 12276	FILM,0.01μF ±5% 100V APSV	OF15103540		C559	4822 124 22274			OF147505020
C519	4822 124 12276	FILM,0.01μF ±5% 100V APSV	OF15103540		C560	4822 124 22274			OF15473010
C520	4822 126 12496	CER.,0.01μF +80%-20% 50V	DD38103010		C561	4822 121 42764			OF15473010
C521	4822 126 12496	CER.,0.01μF +80%-20% 50V	DD38103010		C562	4822 121 42764			OF15473010
					C563	4822 121 42754			OF15103010
					C564	4822 121 42754			OF15103010
					C565	4822 121 70543			OF15101540
					C566	4822 121 70543			OF1510*540
					C567	4822 124 90058			OF147602550
					C568	4822 124 90058			OF147602550
					C569	4822 124 90058			OF147602550
					C570	4822 124 90058			OF147602550
R501	4822 111 20423	220kΩ ±1% 1/4W ERD	NR01224140					P551-RESISTORS	
R502	4822 111 20423	220kΩ ±1% 1/4W ERD	NR01224140		R561				
R503	4822 111 20408	1kΩ ±1% 1/4W ERD	NR01102140		R574	4822 052 10479	47Ω ±5% 1/6W		GG05470160
R504	4822 111 20408	1kΩ ±1% 1/4W ERD	NR01102140		R575	4822 101 30735	VAR.,10kΩ X2 B		RM01030720
R505	4822 111 20407	100.0Ω 1% 1/4W ERDPS2F	NR01101140		R576	4822 101 30735	VAR.,10kΩ X2 B		RM01030720
R506	4822 111 20407	100.0Ω 1% 1/4W ERDPS2F	NR01101140		R577	4822 100 30138	VAR.,100kΩ MN BALANCE		RM01041310
R507					R***				
	4822 050 23308	3.3MΩ ±5% 1/6W	GD05335160					P551-RESISTORS (COMMON)	
R512								CARBON FILM FIXED RES.	
R513								±5% 1/6W :	
R516								R551-R560 R563-R572	
R517									
R520									
R521	4822 111 20415	27kΩ ±1% 1/4W ERD	NR01273140					P551-SEMICONDUCTORS	
R522	4822 111 20415	27kΩ ±1% 1/4W ERD	NR01273140		D551	4822 130 32362	DIODE,1SS176 MA165 1SS254		HD20002000
R523	4822 111 20408	1kΩ ±1% 1/4W ERD	NR01102140				30V 0.1A		
R524	4822 111 20408	1kΩ ±1% 1/4W ERD	NR01102140		Q551	4822 209 16926	IC,OPA2604AP		HC10008610
R525	4822 111 20413	220Ω ±1% 1/4W ERD	NR01221140		Q552	4822 209 16926	IC,OPA2604AP		HC10008610
R526	4822 111 20413	220Ω ±1% 1/4W ERD	NR01221140		Q553	4822 209 73064	IC,NJM-2068-DD		HC1005309C
R527	4822 111 20407	100Ω ±1% 1/4W ERD	NR01101140		Q554	4822 209 73064	IC,NJM-2068-DD		HC1005309C
R528	4822 111 20407	100Ω ±1% 1/4W ERD	NR01101140						
R529									
	4822 052 10479	47Ω ±5% 1/6W	GG05470160					P551-MISCELLANEOUS	
R532					L551	4822 281 50153	RELAY,DC24V A24W-OH-K		LY20240370
R533	4822 101 11362	VAR.,10kΩ X2 10kΩ X2	RY01030040		S551	4822 276 13065	PUSH SW,SP2P24V1A		SP0401065C
								STROK=2mm NON-SHORT	
D501	4822 130 32362	P501-SEMICONDUCTORS	DIODE,1SS176 MA165 1SS254	HD20002000				P591-PREOUT & MAIN IN	
					C591	4822 126 12496	CER.,0.01μF +80%-20% 50V		DD38103010
D502	4822 130 32362	30V 0.1A	DIODE,1SS176 MA165 1SS254	HD20002000	C592	4822 126 12496	CER.,0.01μF -80%-20% 50V		DD38103010
					C593	4822 126 12496			
Q501									
Q502					C594				
Q503	4822 130 42949	UNIT & H-IC,NEW HDAM	KH269J1010		C595				
Q504	4822 130 42949	UNIT & H-IC,NEW HDAM	KH269J1010						
Q505	4822 130 43233	TRS..2SA970 GR OR BL	HT109702A0						
Q506	4822 130 43233	TRS..2SC2240 GR OR BL	HT322402A0						
Q507	4822 130 43283	TRS..2SC2705 O OR Y	HT327052A0						
Q508	4822 130 43283	TRS..2SC2705 O OR Y	HT327052A0						
Q509	4822 130 42995	TRS..2SA1145 O OR Y	HT111452A0						
Q510	4822 130 42995	TRS..2SA1145 O OR Y	HT111452A0						
					L591	4822 280 20501	P591-MISCELLANEOUS		LY20240410
					S591	4822 277 21559	RELAY,MR62-24SR 24V		SS0202115C
								SLIDE SW,SSSU12	

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			P601-POWER AMP. L CIRCUIT BOARD P601-CAPACITORS		D605 ↓	4822 130 80837	DIODE, HSS81TD 150V 153mA	HD20027010	
C601	4822 121 10797	FILM,680pF $\pm 5\%$ 100V	OF55681530		D612	4822 130 80318	ZENER DIODE 6.8V 04A5Z 6-Y	HD30681000	
C602	4822 121 70322	FILM,0.1μF $\pm 5\%$ 100V	OF55104530		D613	4822 130 80318	RD5.6ES B2 MTZJ5 6B	HD30681000	
C603	4822 124 22242	ELECT.,470μF M 25V ARA	OA47702550		D614	4822 130 80318	ZENER DIODE,6.8V 04A5Z 6-Y	HD30681000	
C604	4822 124 22242	ELECT.,470μF M 25V ARA	OA47702550		D615	4822 130 80837	DIODE,HSS81TD 150V 150mA	HD20027010	
C605	4822 123 30088	MICA,10pF D 250WV	DF31100520		D616	4822 130 80837	DIODE,HSS81TD 150V 150mA	HD20027010	
C606	4822 121 10797	FILM,680pF $\pm 5\%$ 100V	OF55681530		D617	4822 130 80837	DIODE,HSS81TD 150V 150mA	HD20027010	
C607	4822 124 23562	ELECT.,10μF M 100V	OA10610020		D601	4822 130 42949	UNIT & H-IC,NEW HDAM	KH269J1010	
C608	4822 121 10796	FILM,220pF $\pm 5\%$ 100V	OF55221530		D603	4822 130 42949	TRS,2.5A970 GR OR BL	HT109702A0	
C609	4822 121 70324	FILM,0.039μF $\pm 5\%$ 100V	OF55393530		D604	4822 130 43233	TRS,2.25C2240 GR OR BL	HT322402A0	
C611	4822 124 80542	ELECT.,1.1μF M 63V RBPA	EQ10606390		D605	4822 130 42949	TRS,2.5A970 GR OR BL	HT109702A0	
▲ C613	4822 124 12278	ELECT.,470μF M 80V AUDIO	EB47708060		D606	4822 130 43233	TRS,2.25C2240 GR OR BL	HT322402A0	
▲ C614	4822 124 12278	ELECT.,470μF M 80V AUDIO	EB47708060		D607	4822 130 43283	TRS,2.25C2705 O OR Y	HT327052A0	
C615	4822 124 22273	ELECT.,0.47μF M 50V RA-2	OA47405020		D608	4822 130 42999	TRS,2.5A1145 O OR Y	HT111452A0	
			P601-RESISTORS		D609	4822 130 42999	TRS,2.5A1145 O OR Y	HT111452A0	
R601	4822 111 20421	100kΩ $\pm 1\%$ 1/4W ERD	NR01104140		Q610	4822 130 43283	TRS,2.5C2705 O OR Y	HT327052A0	
R602	4822 111 20408	1kΩ $\pm 1\%$ 1/4W	NR01102401		Q611	4822 130 43283	TRS,2.5C2705 O OR Y	HT327052A0	
R603	4822 111 20428	47kΩ $\pm 1\%$ 1/4W ERD	NR01473140		Q612	4822 130 42999	TRS,2.5A1145 O OR Y	HT111452A0	
R604	4822 111 20428	47kΩ $\pm 1\%$ 1/4W ERD	NR01473140		▲ Q613	4822 130 63634	TRS,2.5C4793 O OR Y	HT347932A0	
R605	4822 052 10102	1kΩ $\pm 5\%$ 1/6W	GG05102160		▲ Q614	4822 130 63634	TRS,2.5A1837 O OR Y	HT118372A0	
R606	4822 052 10102	1kΩ $\pm 5\%$ 1/6W	GG05102160		▲ Q615	4822 130 43303	TRS,2.5C2922 Y OR P	HT329222B0	
R607	4822 111 20407	100Ω $\pm 1\%$ 1/4W ERD	NR01101140		▲ Q616	4822 130 43015	TRS,2.5A2116 Y OR P	HT11262B0	
R608	4822 111 20407	100Ω $\pm 1\%$ 1/4W ERD	NR01101140		Q617	4822 130 43233	TRS,2.5C2240 GR OR BL	HT322402A0	
R609	4822 111 31001	330Ω $\pm 5\%$ 1/6W	GG05331160		Q618	4822 130 42949	TRS,2.5A970 GR OR BL	HT109702A0	
R610	4822 111 31001	330Ω $\pm 5\%$ 1/6W	GG05331160						
R611	5322 116 54398	METAL,680Ω $\pm 5\%$ 2W	NK05681020	L601	/02B	4822 157 63085	P601-MISCELLANEOUS	ML08010010	
R616				L601	/02G	4822 157 63085	AIR COIL,SPK	ML08010010	
R617	4822 050 23308	3.3MΩ $\pm 5\%$ 1/6W	GD0535160						
R618	4822 050 23308	3.3MΩ $\pm 5\%$ 1/6W	GD0535160						
R619	4822 050 23308	3.3MΩ $\pm 5\%$ 1/6W	GD0535160						
R620									
R621	5322 116 54398	330Ω $\pm 1\%$ 1/4W ERD	NK05681020	L601	/02B	4822 157 63085	P651-IDLING SENSOR L	HT415080A0	
R624	4822 111 20408	3.3kΩ $\pm 1\%$ 1/4W ERD	NR01332140				CIRCUIT BOARD		
R625									
R626	4822 111 20408	1kΩ $\pm 1\%$ 1/4W ERD	NR01102140				P701-POWER AMP. R		
R627	4822 101 30707	TRIM, VAR. 2.2kΩ VERT	RA02220760				CIRCUIT BOARD		
R629	4822 052 10101	100Ω $\pm 5\%$ 1/6W	GG05101160	C701	4822 121 10797	FILM,680pF $\pm 5\%$ 100V	OF55681530		
R630	4822 052 10101	100Ω $\pm 5\%$ 1/6W	GG05101160	C702	4822 121 70322	FILM,0.1μF $\pm 5\%$ 100V	OF55104530		
▲ R631	4822 050 24708	4.7Ω $\pm 5\%$ 1/4W	GG05047140	C703	4822 124 22242	ELECT.,470μF M 25V ARA	OA47702550		
▲ R632	4822 050 24708	4.7Ω $\pm 5\%$ 1/4W	GG05047140	C704	4822 124 22242	ELECT.,470μF M 25V ARA	OA47702550		
R633	4822 052 10471	470Ω $\pm 5\%$ 1/6W	GG05471160	C705	4822 123 30088	MICA,10pF D 250WV	DF31100520		
R634	4822 052 10471	470Ω $\pm 5\%$ 1/6W	GG05471160	C706	4822 121 10797	FILM,680pF $\pm 5\%$ 100V	OF55681530		
R635	5322 116 26809	68Ω $\pm 5\%$ 1/6W	GG05680160	C707	4822 124 23562	ELECT.,10μF M 100V	OA10610020		
R638	4822 050 26809	68Ω $\pm 5\%$ 1/6W	GG05680160	C708	4822 121 10796	FILM,220pF $\pm 5\%$ 100V	OF55221530		
▲ R639	4822 052 10109	10Ω $\pm 5\%$ 1/6W	GG05100160	C709	4822 121 70324	FILM,0.039μF $\pm 5\%$ 100V	OF55393530		
▲ R640	4822 052 10109	10Ω $\pm 5\%$ 1/6W	GG05100160	C711	4822 124 80542	ELECT.,10μF M 63V RBPA	EQ10606390		
▲ R641				C712	4822 124 80542	ELECT.,10μF M 63V RBPA	EQ10606390		
▲ R642				▲ C713	4822 124 12278	ELECT.,470μF M 80V AUDIO	EB47708060		
R643				C714	4822 124 12278	ELECT.,470μF M 80V AUDIO	EB47708060		
▲ R644	4822 052 10102	1kΩ $\pm 5\%$ 1/6W	GG05102160	C715	4822 124 22273	ELECT.,0.47μF M 50V RA-2	OA47405020		
R649	4822 053 11111	10Ω $\pm 5\%$ 2W	GA05100020						
R650	4822 052 10109	10Ω $\pm 5\%$ 1/6W	GG05100160						
R651	/02B	4822 116 83929	220Ω $\pm 5\%$ 1/4W	GG05221140	R701	4822 111 20421	P701-RESISTORS		
R651	/02G	4822 116 83929	220Ω $\pm 5\%$ 1/4W	GG05221140	R702	4822 111 20408	100kΩ $\pm 1\%$ 1/4W ERD	NR01104140	
R651				R703	4822 111 20408	1kΩ $\pm 1\%$ 1/4W ERD	NR01102140		
R651				R704	4822 111 20428	47kΩ $\pm 1\%$ 1/4W ERD	NR01473140		
R651				R705	4822 052 10102	1kΩ $\pm 5\%$ 1/6W	GG05102160		
R651				R706	4822 052 10102	1kΩ $\pm 5\%$ 1/6W	GG05102160		
R651				R707	4822 111 20407	100Ω $\pm 1\%$ 1/4W ERD	NR01473140		
R651				R708	4822 111 20407	100Ω $\pm 1\%$ 1/4W ERD	NR01101140		
R651				R709	4822 111 31001	330Ω $\pm 5\%$ 1/6W	GG05331160		
R651				R710	4822 111 31001	330Ω $\pm 5\%$ 1/6W	GG05331160		
R651				▲ C711	5322 116 54398	METAL,680Ω $\pm 5\%$ 2W	NK05681020		
R651				R712					

POS. NO.	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO.	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)				
R717		4822 050 23308	3.3MΩ ±5% 1/6W	GD05335160	Q702			P751-IDLING SENSOR R CIRCUIT BOARD	HT41508				
R718		4822 050 23308	3.3MΩ ±5% 1/6W	GD05335160									
R719		4822 050 23308	3.3MΩ ±5% 1/6W	GD05335160									
R720			82Ω ±1% 1/4W	NR01820140									
R721	5	4822 111 20416	330Ω ±1% 1/4W ERD	NR01331140									
R724		4822 111 20408	1kΩ ±1% 1/4W ERD	NR01102140									
R725		4822 101 30707	TRIM,VAR. 2.2KOHM	RA0220760									
R727		4822 052 10101	100Ω ±5% 1/6W	GG05101160									
R729		4822 052 10101	100Ω ±5% 1/6W	GG05101160									
R730		4822 050 24708	4.7Ω ±5% 1/4W	GG05047140									
R731		4822 050 24708	4.7Ω ±5% 1/4W	GG05047140									
R732		4822 050 26809	68Ω ±5% 1/6W	GG05680160	▲ C801		P801-POWER SUPPLY CIRCUIT BOARD	P801-CAPACITORS	EB22803				
R733		4822 052 10471	470Ω ±5% 1/6W	GG05471160	5								
R734		4822 052 10471	470Ω ±5% 1/6W	GG05471160	▲ C804								
R735	5	4822 050 26809	68Ω ±5% 1/6W	GG05680160	C805								
R736		4822 052 10109	10Ω ±5% 1/6W	GG05100160	5								
▲ R739		4822 052 10109	10Ω ±5% 1/6W	GG05100160	▲ C808								
▲ R740		4822 052 10109	0.1Ω ±10% 5W ERF5EK R5	GW10102050	C809								
▲ R741			0.1Ω ±10% 5W ERF5EK R5	GW10102050	C810								
▲ R742			1.5kΩ ±5% 1/6W	GG05152160	C811								
R743		4822 052 10102	1kΩ ±5% 1/6W	GG05102160	▲ C812								
R744		4822 052 10102	10Ω ±5% 2W	GA05100020	C813								
R749		4822 053 11109	10Ω ±5% 2W	GA05100020	C814								
R750		4822 052 10109	10Ω ±5% 1/6W	GG05100160	▲ C815								
R751	/02	4822 116 83929	220Ω ±5% 1/4W	GG05221140	▲ C816								
R*** P701-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/6W : R745-R748													
P701-SEMICONDUCTORS													
D701		4822 130 83385	ZENER DIODE,HZ20-1L	HD30020010	▲ R801		P801-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/6W : R803 R804 R807	P801-RESISTORS	GG0501				
D702		4822 130 83385	ZENER DIODE,HZ20-1L	HD30020010	▲ R802								
D703		4822 130 80837	DIODE,HSS81TD 150V 150mA	HD20027010	▲ R805								
D705	5	4822 130 80837	DIODE,HSS81TD 150V 150mA	HD20027010	▲ R806								
D712		4822 130 80318	ZENER DIODE,6.8V 04AZ5.6-Y	RD5.6ES B2 MTZ5.6B	▲ R807								
D713		4822 130 80318	ZENER DIODE,6.8V 04AZ5.6-Y	RD5.6ES B2 MTZ5.6B	D809								
D714		4822 130 80318	ZENER DIODE,6.8V 04AZ5.6-Y	RD5.6ES B2 MTZ5.6B	D810								
D715		4822 130 80837	DIODE,HSS81TD 150V 150mA	HD20027010	D811								
D716		4822 130 80837	DIODE,HSS81TD 150V 150mA	HD20027010	▲ D812								
D717		4822 130 80837	DIODE,HSS81TD 150V 150mA	HD20027010	5								
Q701		4822 130 42949	UNIT & H-IC,NEW HDAM	KH2691010	▲ D808		P801-SEMICONDUCTORS	P801-SEMICONDUCTORS	GG0504				
Q703		4822 130 42949	TRS,2SA970 GR OR BL	HT109702A0	D817								
Q704		4822 130 43233	TRS,2SC2240 GR OR BL	HT322402A0	D818								
Q705		4822 130 42949	TRS,2SA970 GR OR BL	HT109702A0	D819								
Q706		4822 130 43233	TRS,2SC2240 GR OR BL	HT322402A0	▲ D820								
Q707		4822 130 43283	TRS,2SC2705 O OR Y	HT327052A0	5								
Q708		4822 130 42994	TRS,2SA1145 O OR Y	HT111452A0	▲ D821								
Q709		4822 130 42999	TRS,2SA1145 O OR Y	HT111452A0	▲ D801								
Q710		4822 130 43283	TRS,2SC2705 O OR Y	HT327052A0	▲ D802								
Q711		4822 130 43283	TRS,2SC2705 O OR Y	HT327052A0	5								
Q712		4822 130 42999	TRS,2SA1145 O OR Y	HT111452A0	▲ D803		P801-MISCELLANEOUS	P801-RECTIFIER CIRCUIT BOARD	BF47403				
▲ Q713		4822 130 63634	TRS,2SA1837 O OR Y	HT118372A0	Q804								
▲ Q714		4822 130 63634	TRS,2SA1837 O OR Y	HT118372A0	▲ D805								
▲ Q715		4822 130 43015	TRS,2SA1216 Y OR P	HT112162B0	Q806								
▲ Q716		4822 130 43015	TRS,2SA1216 Y OR P	HT112162B0	▲ G801								
Q717		4822 130 43233	TRS,2SC2240 GR OR BL	HT322402A0	4822 121 20263								
Q718		4822 130 42949	TRS,2SA970 GR OR BL	HT109702A0	▲ D891		P801-RECTIFIER CIRCUIT BOARD	NOISE KILLER 0.47μF + 6.8Ω	BF47403				
L701	/02B	4822 157 63085	AIR COIL,SPK	ML080:0010	▲ G891								
L701	/02G	4822 157 63085	AIR COIL,SPK	ML080:0010	▲ G891								
P701-MISCELLANEOUS													
L701 P751-IDLING SENSOR R CIRCUIT BOARD													
L701 TRS,2SD1508 DARLINGTON HFE>4000													
L701 P801-POWER SUPPLY CIRCUIT BOARD													
L701 P801-CAPACITORS													
L701 P801-RESISTORS													
L701 P801-RESISTORS (COMMON)													
L701 CARBON FILM FIXED RES. ±5% 1/6W : R803 R804 R807													
L701 P801-SEMICONDUCTORS													
L701 DIODE,S5688G VRM=400V													
L701 10Ω													
L701 ZENER DIODE,HZ20-1L													
L701 DIODE,ISS176 MA165 1SS254													
L701 30V 0.1A													
L701 DIODE,ISS176 MA165 1SS254													
L701 30V 0.1A													
L701 DIODE,S5688G VRM=400V													
L701 10Ω													
L701 ZENER DIODE,DIODE,ISS176 MA165 1SS254													
L701 30V 0.1A													
L701 DIODE,S5688G VRM=400V													
L701 10Ω													
L701 ZENER DIODE,2SD1417													
L701 10Ω													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													
L701 2SD1417													

VERS.:VERSION, U:U.S.A., F:JAPAN, K:FAR EAST, E:EUROPE)									
POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			<b>P901-SPK. PROTECTOR CIRCUIT BOARD</b>		L903		4822 280 20501	RELAY,MR62-24SR 24V	LY20240410
			<b>P901-CAPACITORS</b>					<b>P951-POWER SW. CIRCUIT BOARD</b>	
C901	4822 121 42754	FILM,0.01μF ±5% 50V	OF15103010		▲ C951		4822 121 43732	FILM,0.01μF 250V AC	DF77103500
C902	4822 124 22698	ELECT.,47μF M 25V RA-2	0A47602520		▲ S951		4822 276 12647	PUSH SW.,ESB-99753V-4 TV-B	SP01011470
C903	4822 122 40617	CER.,0.1μF +80-20% 50V	DD38104010					<b>P981-AC OUTLET CIRCUIT BOARD [F VERSION]</b>	
C904	4822 124 22571	ELECT.,10μF M 50V RA-2	0A10605020		▲ J981	FN	4822 265 31113	JACK,3P AC OUTLET	YJ04001950
C905	4822 124 22698	ELECT.,47μF M 25V RA-2	0A47602520						
C906	4822 124 22273	ELECT.,0.47μF M 50V RA-2	0A47405020						
C907	4822 124 40617	CER.,0.1μF +80-20% 50V	DD38104010						
C908	4822 124 41535	ELECT.,100μF M 25V RA-2	0A10702520						
C909	4822 124 41534	ELECT.,10μF M 25V RA-2	0A10602520						
C911									
5	/02	4822 121 10791	FILM,0.018μF ±5% 100V APSV	OF15183540					
C914									
▲ C951	4822 124 80955	ELECT.,680μF M 80V AUDIO	EB68708010						
▲ C952	4822 124 80955	ELECT.,680μF M 80V AUDIO	EB68708010						
▲ C955	4822 124 12275	ELECT.,470μF M 100V RA-2	0A47710020						
C956	4822 124 90355	ELECT.,100μF M 50V RA-2	0A10705020						
C957	4822 124 90355	ELECT.,100μF M 50V RA-2	0A10705020						
▲ C958	4822 124 11533	ELECT.,1μF M 100V RA-2	0A10510020						
C959	4822 121 42754	FILM,0.01μF ±5% 50V	OF15103010						
			<b>P901-RESISTORS</b>						
R914	4822 053 10331	330Ω ±5% 1W	GA05331010						
R915	4822 053 10331	330Ω ±5% 1W	GA05331010						
R916									
5		4822 052 10478	4.7Ω ±5% 1/6W	GG05047160					
R919									
R928	5322 116 55263	820Ω ±5% 1W	GA05821010						
R929	5322 116 55263	820Ω ±5% 1W	GA05821010						
R955	4822 052 10101	100Ω ±5% 1/6W	GG05101160						
▲ R956	4822 052 10478	4.7Ω ±5% 1/6W	GG05047160						
▲ R957	4822 052 10101	100Ω ±5% 1/6W	GG05101160						
▲ R959	4822 117 10158	1Ω ±5% 1/4W	GG05010140						
R960	4822 117 11858	METAL,150Ω ±5% 3W	NK05151030						
			<b>P901-RESISTORS (COMMON)</b>						
			CARBON FILM FIXED RES.						
			±5% 1/6W :						
			R901-R913 R920-R927 R958						
			<b>P901-SEMICONDUCTORS</b>						
D901	4822 130 80837	DIODE,HSS81TD 150V 150mA	HD20027010						
D902	4822 130 80837	DIODE,HSS81TD 150V 150mA	HD20027010						
D903	4822 130 80837	DIODE,HSS81TD 150V 150mA	HD20027010						
D904	4822 130 33948	ZENER DIODE 5.6V	HD30561000						
D905	4822 130 32362	DIODE,1S176 MA165 1SS254 30V 0.1A	HD20002000						
▲ D951									
5		4822 130 80839	DIODE,S5688G VRM=400V 10-1A	HD20029050					
▲ D966									
D967	4822 130 33433	ZENER DIODE, RD24E B4 1/2W	HD30056060						
D968	4822 130 32362	DIODE,1S176 MA165 1SS254 30V 0.1A	HD20002000						
Q901	4822 209 83312	IC,TA7317P	HC10042050						
Q902	4822 130 42835	F.E.T.,2SK246 GR	HF202461C0						
Q903	4822 130 43233	TRS,.2SC2240 GR OR BL	HT322402A0						
Q904	4822 130 43233	TRS,.2SC2240 GR OR BL	HT322402A0						
Q905	4822 130 60117	TRS,.2SC3419 Y 40V 0.8A PC=1 2W 5V	HT334191Y0						
Q906	4822 209 83679	IC,NJM2904 DUAL OP-AMP	HC10030090						
▲ Q951	4822 130 63292	TRS,.2SD1417	HT41417100						
Q952	4822 130 42835	F.E.T.,2SK246 GR	HF202461C0						
			<b>P901-MISCELLANEOUS</b>						
L901	4822 280 70354	RELAY,VB 24MBU-510 5A 240VAC	LY20240310						
L902	4822 280 70354	RELAY,VB 24MBU-510 5A 240VAC	LY20240310						